MODERN CYCLE

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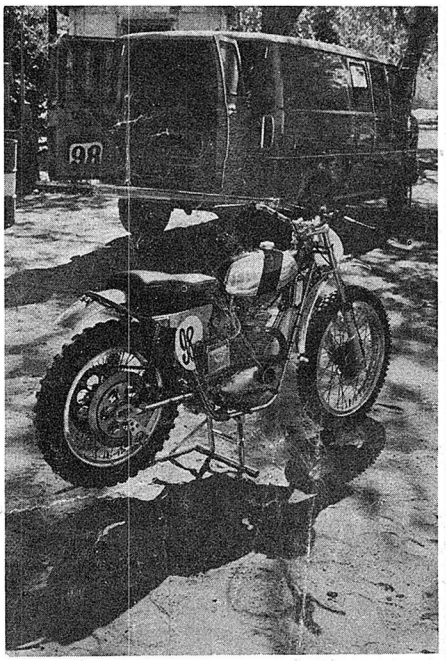

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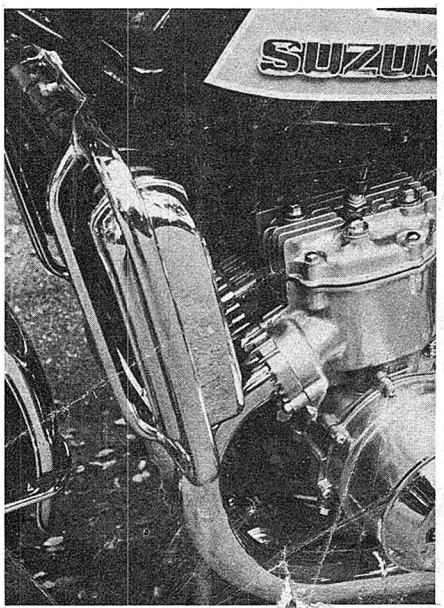

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BE COUNTED

The other day I received a communique from the California State Department of Parks and Recreation requesting public participation in the Department's Off-Highway Vehicle Study. The whole tone of the announcement indicates that the Department of Parks and Recreation is, at the present time, totally impartial. At this point in time the Department really does want to do what is best for the public.

What with all manner of legislation adverse to off-road motorcycling cropping up, it's very easy to forget that State departments, State Senate, and State Houses of Representatives are all guided by public opinion.

The phrasing in the announcement from the California State Department of Parks and Recreation is a classic example of a State Agency seeking guidelines which will enable them to do what is best for the greatest number of people. It says, "This study will examine the current circumstances surrounding the use of these vehicles, the needs and desires of their users and of non-users, and appraise the responsibility of the state in the stewardship of its land and other resources which are affected by off-highway vehicle use." The announcement goes on to say, ". . . you are being contacted to inform you of the study and to solicit whatever information and opinions you may have on the subject. Because of a large number of contacts, we unfortunately must resort to such impersonal communications as this." The final paragraph of the announcement states, "You or your organization are encouraged to participate and to present your views on off-highway vehicles, their use and the Department's study. If you cannot attend, written comments may be submitted."

Obviously, this Department has no preconceived ideas about off-road vehicles. The subject has been thrown open to the public, and it is up to the public to inform this State Agency of its desires.

Talking to concerned motorcyclists we get the impression that the battle lines are drawn between "we" and "us" and "they" and "them." We hear that, "They are against us, and we don't stand a chance against them." What we frequently fail to remember is that they and them are invariably the people who make their wishes known to State Agencies and State Legislatures.

All of this boils down to one simple thing: It is now more important than ever that concerned motorcyclists make their wishes known. The rider who has not taken the time to find out who his representatives are and written them letting them know of his desires is throwing away the best chance he has to have a say in the future of off-road riding. Remember, if enough of us make our wishes known we cease to be "we" and we become "them."

GOOD IDEA

Elsewhere in this issue of **Modern Cycle** you'll find a report on the Race of Champions held this past October at San Jose, California. While this is the fifth running of the event, it is the first time that it can truly be called a Race of Champions.

In the past the race has been vaguely invitational in nature, it has never been a "points" run, as a matter of fact, it seems to have been a race designed for television consumption. If memory serves, the race has appeared at least once on ABC-TV's Wide World of Sports.

This year, things were different. First of all, it could really be called a Race of Champions. The entry was limited to riders who have won either a Mile or a Half-Mile National during the 1972 Professional season. The purse up for grabs amounted to $5,000, not bad for a non-National race limited to eight riders.

At least, not bad for the first time out. This is th[illegible]t of sporting event that has a [illegible]harisma going for it. It's the [illegible]gic that makes Indy, Wimble[illegible]d the Master's Golf Tournament such winners. You don't have to be a golfer or a tennis freak or a car nut to enjoy these events. When you tune-in you know you're seeing the best in the business. Same holds true for the Race of Champions. In years to come the Race of Champions could become a major sporting event. I hope that the purse grows along with the stature of the race.

a blast from the publisher!

GOOD GRIEF

The following press release, printed in its entirety, rightfully belongs in the "is nothing sacred" category:

BMW motorcycles, usually known and recognized by their conservative black color with white striping, are now blooming in six additional colors. In the next few months, Granada Red and Lime Green will be added to the already existing selection of White, Polaris Silver, Metallic Blue and Curry (Gold).

While the dyed-in-the-wool fan will still consider nothing but the Black, and police forces around the world prefer White BMWs, the new, attractive colors will satisfy nearly everyone who wants his BMW to reflect today's color-conscious tastes.

Truly, is nothing sacred?

ANOTHER AUTHORITY

More and more frequently newspapers and magazines carry articles devoted to one aspect or another of motorcycling. Most often, these articles are condemning in nature. They put down motorcycles and riders for one reason or another. Frequently, the authors of these articles go to great length to come up with a reason to knock bikes. One of the latest examples of this type of literary form is from the pen of a Dr. Henry P. Loigmon, past president of the Los Angeles County Chiropractic Society. In a speech delivered before the senior class of the Los Angeles College of Chiropractic, Loigman pointed out that, as far as he was concerned, chopper riders were a sure bet for serious spinal problems, because of the position that they assume when riding one of these customized motorcycles.

In glowing prose the learned Doctor points out the damage (perhaps even permanent) possible to the human spine from riding choppers. In concluding his talk, Loigmon assured his audience that there would be no lack of patients in the future if the present trend to modify standard motorcycles into choppers continues.

Reading Loigmon's article, or others of a similar nature you might wonder how they find their way into print. Obviously, few newspapers or magazines are going to bother to send a reporter to a meeting of senior students of a College of Chiropractic. No, the publication does not go to the meeting, the meeting (in printed form) is sent to the publication. These press releases cross editors' desks in surprising numbers. Most editors (yours truly included) give these releases a brief glance and then aim them at the circular file. One sure way to get an editor's attention is to put a grabby title on the press release. Dr. Loigmon's article is headed, "Motorcyclists Face Wheelchairs, Doctor Warns Youth." Now that's the sort of title that an editor will pause over. Motorcyclists, particularly when they are examined in a bad light, are good copy as far as most publications are concerned.

The public relations firms that issue releases like to think of themselves as molders of public opinion, and in many cases they are right. Of course, there's absolutely no reason why motorcycling groups, even the smallest clubs, cannot use the press release to gain good press for the sport. Newspaper editors are always looking for off-beat copy. Almost any motorcycling club or group activity is worthy of space in a newspaper, providing someone takes the time to write a brief report and send it in, along with photographs to the publication.

Press releases work for both sides. The problem is that most press releases are created by people who are knocking motorcycles. ●

THE NEW SHERPA T 350

Bultaco has always set the trend in the trials world so when we say it's time to make a change...you'd better believe it! When we first made a 250 two-stroker, for example, the "experts" laughed and told us that a trials bike just HAD to be a four-stroke "thumper". How many of those thumpers do you see these days?
Now we're getting back to the thumper-type power, however, with our latest Sherpa 'T' 350. But we're combining that sort of power with the light weight and precise steering of our famed 250. That's why we say it's time to change from the two-fifties. Because our new 350 does anything that the two-fifties can...and does it a whole lot better!

BULTACO

Silverado, California

European Scene

When the old Associated Motor Cycles Company folded in 1966, many saw the demise of the famous ohv 500 single racing Matchless engine. This G50 engine was carried on by Colin Seeley who continued the manufacture of the units fitted into his own special frame kits. However, demand has now dwindled until it is no longer a financial proposition to continue engine manufacture although owners can be assured of spares supplies for a few more years. $50,000 worth of spares are still in hand.

When Paul Smart won the richest ever motorcycle race at Ontario—netting some $30,000 in the process—he totalled his winnings for this and the Italian Imola meeting to a total of $46,000, which shows what pickings there are for the top men in the game.

Triumph and BSA have withdrawn all their race machinery back into factory cold storage following their announcement of total withdrawal from racing. The answer from the factory top brass is that the racing personnel who prepare the bikes are required in the development of a new range of bikes. In their home country no one can appreciate the reasoning for the dropping of the BSA name which, in the U.S., will be only represented by the 500MX BSA; the remainder of the output will be under the Triumph banner. The BSA Rocket 3 will have its cylinders raised from the forward incline to the Triumph Trident vertical with this latter name covering all the three-cylinder range. It seemed contradictory when the press release stated, "BSA launched a new version of the Triumph Trident 3. . . the American-designed Hurricane X-75." And why the advance warning that only 1,200 will be made in 1973 is anyone's guess. We ask, if the BSA name means so little these days, why not bury it for good in the same way that this self same company did to the other names it once had under its wings; from memory these included New Hudson, Sunbeam, and Ariel. However, having given up such world famed names to the records in history books we are intrigued to find the Rickman Brothers throwing their goodies into the BSA/Triumph merchandising set-up in the States. If the fortunes of the BSA group are anything to go by (1972 annual accounts report further heavy losses), then Rickmans are onto a good hiding to nothing. Rickmans are to introduce its range to a reported eager British public. Heading the list will be the Montesa-powered motocross machine. It seems that such was delayed until agreement had been reached with Montesa (which already has a live import organization in England). So, how the dealers who handle Montesas will react remains to be seen. One remembers a similar set-up when Rickmans handled Bultaco imports and raced and sold their Rickman (Bultaco) Metisse which faded out when Bultaco found another importer.

One little bright spot showing up in the declining U.K. industry is the efforts of the small Cotton firm which has really worked hard to provide riders with what they want in lightweight trials and enduro models. Always willing to listen to riders and its dealers, and in particular its U.S. importers, they have incorporated many of the suggestions and modifications into its production models. The result is that deliveries are running behind demand—quite a happier story.

In these days of ever rising prices it is refreshing to find that Norton-Villiers have reduced by $100 the prices of its 6-version Commando range. The explanation from the factory is that production has now reached the target level set some 3 years ago which has reduced production costs now being passed onto the customer.

Towards the end of 1971 the British authorities banned under-17-year-old lads from public roads on other than 50cc pedal-assisted mopeds. This still left these Juniors the private trials and motocross courses over which the state had no jurisdiction. The Belgian government has found, or brought in, a law forbidding those under 16 to ride in motocross scrambles on the grounds that too many of these Juniors have been badly injured. The medical profession has now condemned the sport as being unsuitable for growing children who must now seek their natural adventure outlets in such mild pastimes as mountaineering, skiing, and horse riding. One wonders if the entry of Britain into the Common Market will in the future bring about a set of universal rider rules and dos and don'ts.

Andy Robertson was to have ridden Husqvarna in the U.S. Trans-AMA motocross series. However, when Andy elected to miss the early rounds in order to improve his position in the British Championship (he won the 250 class) Husqvarna withdrew his entry and promised works bike. One is also surprised to see Husky rider Bob Grossi relegated to the Support races—it displays a lack of confidence by Husqvarna in being able to win the Open classes to put a top-line runner into the Support class just to get some "firsts."

Arthur Browning, who was badly injured in the International Six Days Trial in Czechoslovakia at a mere 200 yards from the last day finish line, is now back in England and making a wonderful recovery. He is in no doubt that he will be riding speedway when the season opens again this March.

Following the import of Russian bikes comes the Chinese by the same importer—Fred Wells of London. Manufactured in Taiwan (Nationalist China) they come under the Shin San Tong label and comprise a 6 model range of rotary valve two-strokes. These SST models are already on the U.S. market where they sell under the Gemini name. In giving mention to Taiwan, which was formerly Formosa, we note that many of the motorcycle accessories which come under the Japanese names are actually made in Taiwan such as Yusa batteries, NGK plugs and many small fittings like handlebar levers, tools, etc. American capital is involved with a fair amount of Japanese know-how. European manufacturers are looking at this new source of cheaper supplies which compare favorably in quality with supplies from elsewhere.

The first foreign made helmet to pass the British Standards Institute and given the BSI 2001 Kitemark is the U.S. Premier helmet. This is a boost for this make as it has just been revealed that many of the on-sale helmets in the U.S. are below standard. Even the popular Italian A.G.V. (Agostini sponsors this) has not been submitted for BSI testing and under impending regulations may only be sold for off-street riding.

(Text continued on page 77)

Now there are three HODAKAS

Three machines with one basic, proven concept . . . honesty!

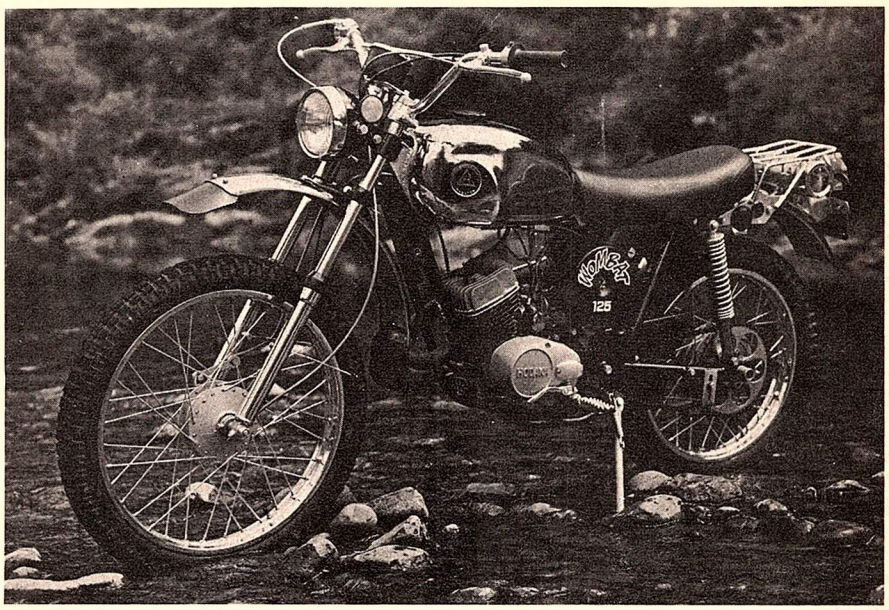
If you were to sit down and design a light weight Enduro bike, aware of the nation-wide demands of Enduro competition, conscious of the owners' cost of replacement parts and wanting the very best value for your money . . . you'd likely come up with a motorcycle just like the Hodaka Wombat 125.

Priced less than the European machines and more than the Japanese Enduro bikes, the handmade Wombat is an Enduro Bike IN FACT rather than just in name.

In secret test runs with inexperienced Enduro riders, the Wombat "Silver Medalled" the gruelling Bad Rock and Trask Mountain Two Day Trials. Although the Wombat looks deceivingly like other Hodakas, its new black frame, longer wheelbase, engine size and performance are only a few of the 143 differences between it and the 100 B+ trail bike.

A sturdy trail performer, the Hodaka B+ now incorporates features suggested by nearly a decade of Hodaka riders. Its generous ground clearance, torque-producing engine, 50 inch wheelbase and many other well thought-out features ideally suit the B+ to rugged trail use.

SUPER RAT 100cc MXer



NEW HODAKA 125cc WOMBAT Enduro

The third member of Hodaka's winning team is the almost legendary Super Rat 100cc motocrosser. Out-of-the-crate and onto the track in less than 10 minutes. Completely race-ready with knobbie tires, silenced expansion chamber, 5-speed MX gear-box, heavy-duty clutch, giant Micronic air cleaner and regulation number plates.

You could be the Hodaka rider selected for a spot on the official Hodaka manufacturer's team at the 1973 International Six Days Trial. Visit your local Hodaka dealer, he has the details. Ask for the official TEAM HODAKA entry form. While you're there examine the Wombat, Hodaka's new 125cc Enduro and ISDT contender.

If you're not yet a Hodaka owner, send for your copy of the "Hodaka Story". Include your name, address, and zip code along with 25¢ to **PABATCO, 273 E. Sherman Road, Athena, Oregon 97813.** We'll also send you the address of your nearest Hodaka dealer. Canadian readers should write to Gemini Ind. Ltd., 2525 Stephens Street, Vancouver, B.C. Australian inquiries can be sent to Minilya Pty., Ltd., P. O. Box 209 S. Melbourne, Australia 3205.

100cc HODAKA B+ Trail Bike

Hodaka is designed and imported by PABATCO.

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MAIL

Dear Sirs:

I am 14 years old and own a Yamaha Mini Enduro. I have recently equipped it with an expansion chamber. In your January, 1972 issue in the article "How to Hop-Up a Yamaha Mini" you mentioned the use of a Proto Products air filter. Who would I write to to get information on this product?

Jim Silva
Sacramento, Calif.

Information on the Proto air filter for the Yamaha Mini Enduro can be obtained by writing to: Torque Engineering Company, 19755 Bahama St., Northridge, California 91324.

Dear Sir:

In reference to the articles "European Scene" and "Up on the Pegs," as they appeared in your October issue, I am quite disappointed in the general treatment of the 1973 ISDT which apparently will be held in the Berkshires. It would take many pages of theory and fact to show you why Fort Hood or a desert type location would not be our best foot forward. I do not intend to belittle the West Coast desert riders, motocross riders and chopper enthusiasts who I agree are ahead of the East Coast in those areas of riding, but I am sure even John Penton would agree there is no place more challenging or scenic than the Berkshires of Massachusetts or is there a finer trail riding organization than the 3,000 member New England Trail Rider Association who will layout and man the ISDT in conjunction with the AMA. The attached article by Bob Hicks carries many, but not all, of my thoughts on the subject and I hope you will enjoy it.

There are many West Coast riders who have the skill to ride in the Eastern event, as some have proven in the past Berkshires. I do not feel the ability to carry on under the strain of high temperatures has anything to do with the skill of maneuvering a bike.

We are holding a two day trial this month in order to give the supporting people a dry run for next year and hopefully, I can pass a report onto you later.

James W. Noel
Area Coordinator
N.E.T.R.A.
Nashua, New Hampshire

First, let's get one thing cleared up. I have absolutely no objection to the Berkshires of Massachusetts as the site for the 1973 ISDT. As a matter of fact, when it was first announced that the United States would host the 1973 ISDT I felt that the Berkshires were the logical venue for the event. What I did, and still do, object to was the amount of confusion that preceded the actual selection of the 1973 site.

Originally, the AMA sent out requests to its member organizations asking them to propose sites that they felt were suitable for this premiere motorcycling event. Several areas expended a tremendous amount of time and money in putting together proposals which described the suitability of these areas as sites for the ISDT. Suddenly, the AMA issued statements saying that after careful consideration and evaluation Fort Hood, Texas had been selected as the site for the 1973 International Trials. So be it, the AMA had evaluated all proposals and had decided that Fort Hood would be the site of the Six Days.

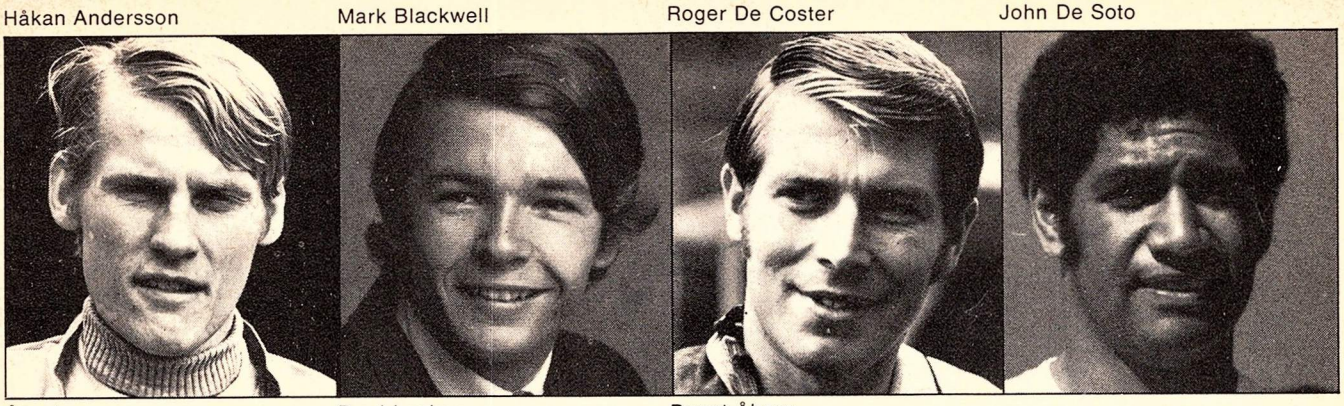
All of a sudden, and with no real explanation, the AMA issued a statement that the Texas location was not all that spiffy, and that the '73 International would be held in Massachusetts.

All I want to know is what really happened, and why was there so much wasted time and effort, leading up to the selection of the Berkshires as the venue for the ISDT.

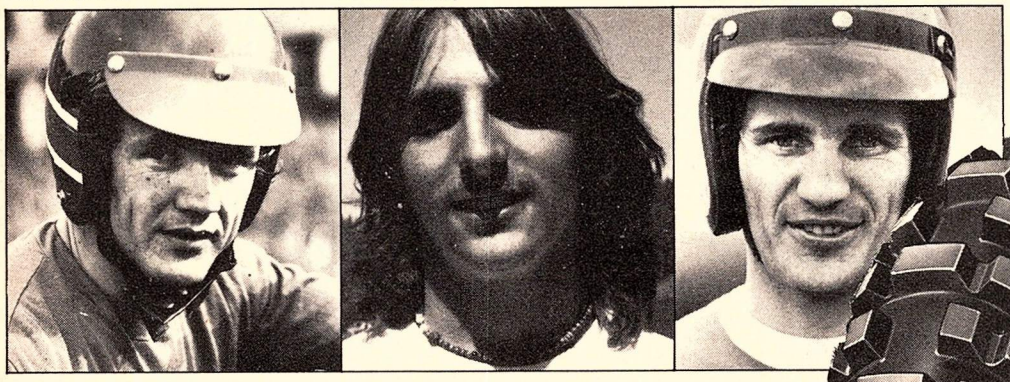
Now, if I may, I'd like to comment on some of the other statements made in your letter. The final sentence in your second paragraph leads

(Text continued on page 56)

Håkan Andersson | Mark Blackwell | Roger De Coster | John De Soto

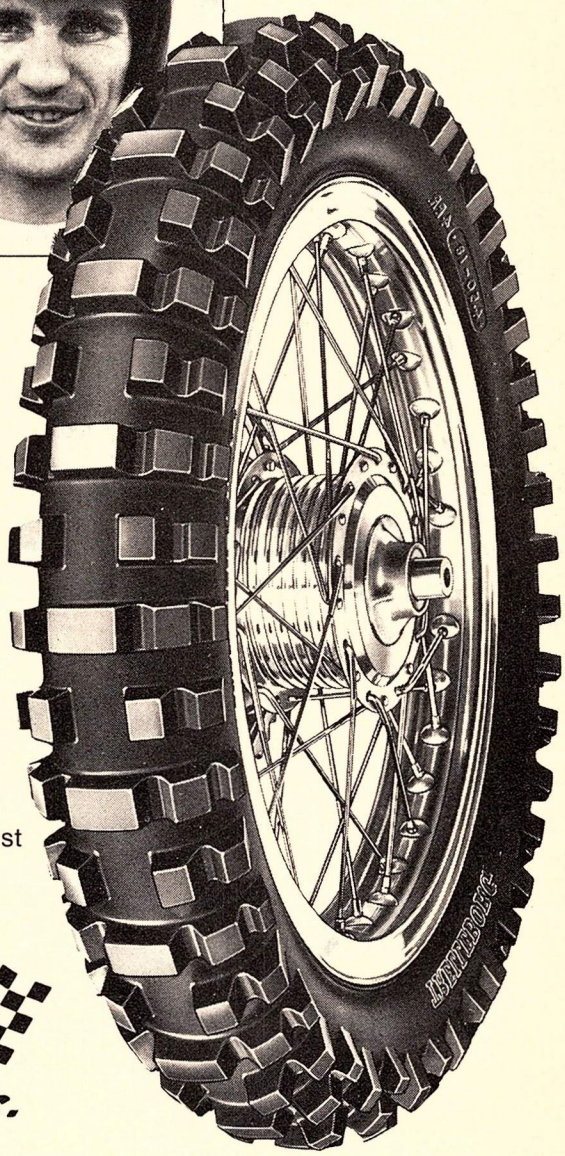


Åke Jonsson | Brad Lackey | Bengt Åberg



Do like almost the entire world's elite: ride on Trelleborg motocross tires!

No other motocross tire has had such successes as Trelleborg. This is understandable when you look at its really big, strong studs, which ensure proper grip and quick, off-the-mark acceleration. In loose sand, on gravel, in mud and slush — everywhere. Side stability is also top class. And that's why Håkan Andersson, Mark Blackwell, Roger De Coster, John De Soto, Åke Jonsson, Brad Lackey, Bengt Åberg — almost the entire world's elite — rely on this tire.
Follow their example: ride yourself on Trelleborg!



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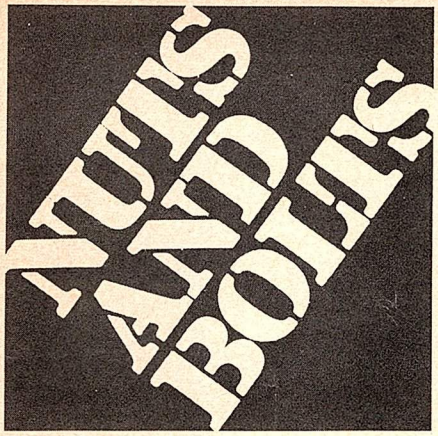

Dear Sirs:

In your August issue you had an article on crankshaft weights for the Suzuki 400 and Husky 400. Could these weights be used as flywheel weights for a Yamaha 360? The bike has CDI ignition and as such the flywheel magneto is missing, thus lightening or subtracting from the "rotational mass on the crankshaft" as one tech report put it. It makes it difficult to bump-start it and to kick through. It could use the weight on the crankshaft. Would one of those weights fit and work? Thanks.

Mike Kelley
Hawaiian Gardens, Calif.

This principle will work but the pieces won't.—Ed.

Dear Mr. Ekins:

I was reading about a test on the Yamaha 360 Enduro in the October issue of **Supercycle.** They claim that the Enduro has never handled good, and that the MX series, ". . . has been something akin to Mission Impossible," which is not true. I own a DT-2 MX and it handles very good. They say that the Torque Induction is supposed to improve the torque output of the engine, but it doesn't. In your test of the RT-2 you said that the Torque Induction was very noticeable and very much affects the engine's torque output. Your test of the 360 proved very differently to the one of **Supercycle.** Your magazine is a lot better, but they claim that the Enduro is bad and not worth the money. You say that it is a good bike and is worth the money. This leaves me puzzled.

Al Keyes
San Jose, Calif.

Personally, I hate to think I have been brought down to the level of SUPERCYCLE.—Ed.

Dear Sirs:

I am writing to make a suggestion. Why don't you do a job of making the BSA 500MX lighter (257 lbs. wet)? This would probably be very interesting to a lot of readers including myself. I have seen this bike in a lot of races, and you can't tell me that it won't chew up a two-stroke motocrosser.

Don Ingram
Austin, Texas

P.S.—If you're ever in the area stop for the races in Lockhart, Texas. It's one of the roughest tracks going.

You can never tell what we may do in the interest of the reader.—Ed.

Dear Mr. Ekins:

I own a Honda XL-250. I am looking for a good high performance, silenced exhaust system for my bike. Could you tell me who makes the best one? If you can't state the one you think best, could you give me the names of several good ones? Thanks for your help.

Richard Myslinski
Trenton, New Jersey

The January, 1973 issue of MODERN CYCLE has answered these questions for you.—Ed.

Dear Sir:

At the present time I own a 1971 125cc Kawasaki Enduro. It has 17½ horsepower. On the rear I have a 3.50 Full Bore knobby and a 54-tooth sprocket. I need a little more pep and power for hillclimbing. The sprocket and knobby supply me with a lot of dig and pull, but as I earlier stated, I need some additional power. I have in mind adding a 175cc Kawasaki kit and an expansion chamber. What do you recommend? (Any information and ideas you can give would be appreciated.)

Buddy Polk
Flint, Michigan

How about a 1200cc fuel-burning Harley hillclimber? If that don't satisfy your vertical needs nothing will.—Ed.

Dear Sir:

I am writing this letter because I have many problems. I have a Suzuki 90; it is very fast and I love it. I have been riding since I was about 11. We have a motocross track close by. My dad is a doctor and therefore very worried about my riding. When I was about 14 I finally got him talked into letting me race. My biggest problem started in about the second practice lap before the race—I was hit by a 360 Maico, broke my leg, and I was very mad knowing that this put a big dent in my racing which never started. That was the end as far as my parents were concerned, but not as far as I was concerned. I took them to races whenever I could trying to get them interested in the sport. Finally one year later they are ready to say yes, but now my second problem starts. I have now grown out of my 90 and am ready to get a 250 Suzuki Champion. Is this bike too big for a 135-pound kid? Or will I kill myself racing with the big boys? Should I stick to 100s? The bike is too small, I am five-foot-eight (my knees hit the bars and things like that). What should I do? Please try to help me. You have a great mag and it's the only one I buy.

Bob Ikola
Santa Maria, Calif.

P.S.—Maybe I should write Dear Abby.

If you're all hung up about getting your body pranged, I suggest you try something else, like skydiving. I've spent numerous hours with the two World Champions, DeCoster and Robert, and this subject is the one that weighs heaviest in their minds. They are human beings like the rest of us and they can get hurt, too—only their livelihood depends on staying healthy.—Ed.

Dear Sir:

I am interested to see if you did a road test on the 125cc AT-1 Yamaha? I would also like to know if putting a 3.50 or 3.75 motocross tire on my bike would put a strain on my engine?

Bruce LaBrake
Malone, New York

It may strain a few other things, too. I prefer the "Trials Universal" patterns for trail riding. We did test the bike, but that was years ago when it first appeared on the market.—Ed.

Dear Mr. Ekins:

I read Wayne Creed's letter in your August issue and may be able to help. I own a 1969 CT-1 Yamaha. In the front end department I have a 2.75 x 21-inch tire and rim. Also, I have a Webco damping and spring kit, which helps considerably. The drive sprocket is a 14-tooth item, while the rear has 45 teeth. The engine has no modifications other than an expansion chamber. Koni shocks have been installed at the rear. The wheelbase has been lengthened one-inch by cutting the chain adjuster off right in front of the slots and welding in a one-inch zig-zag spacer. If Mr. Creed would like to try the chain adjuster plate modification, I would be happy to send him a close-up photograph so he could copy it. I have removed all the unnecessary equipment to get rid of extra weight.

Well, I hope I've been of some help —keep up the good work on the magazine.

Steve Germany
Chelsea, Oklahoma

Gee, that's nice. As for longer swing

(Text continued on page 62)

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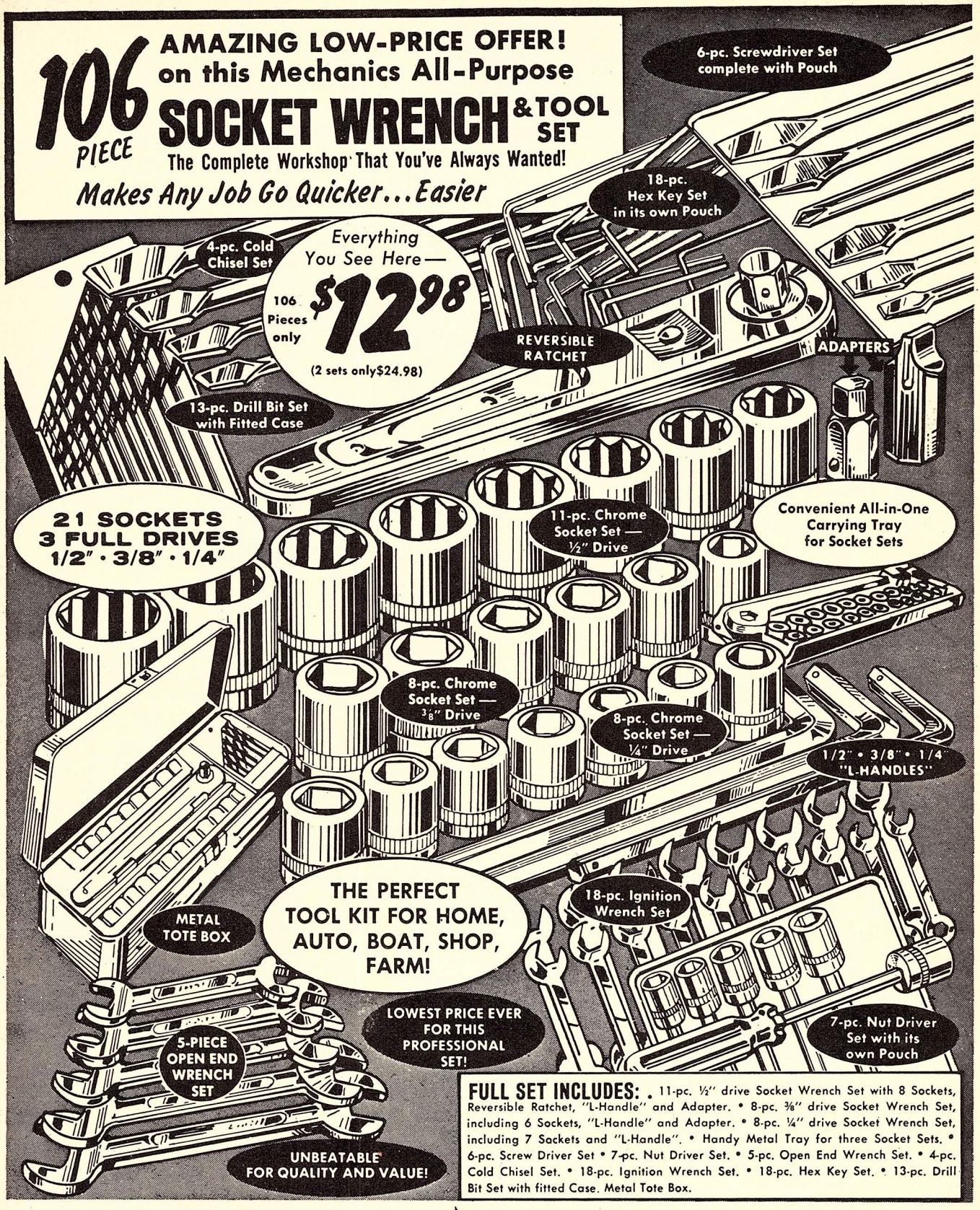
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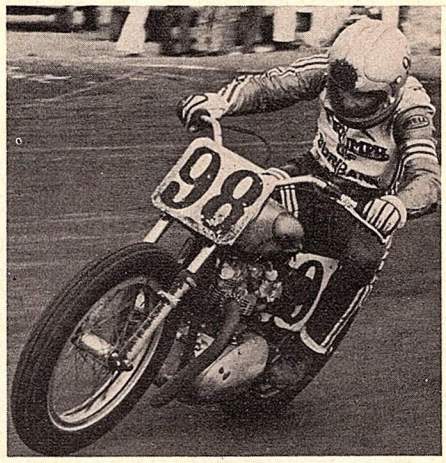
THE TOP DIRT TRACK RACERS OF 1972 MEET IN HE

Trick. Definitely trick. San Jose's half-mile fairgrounds track, which is usually (is always) a hard, slick-as-ice blue groove, actually had a cushion on it. Not enough cushion to bank off of, but enough to where a rider could ride in it with some degree of success. Two weeks of rains, plus two days of watering by some trick track attendant made it one of the nicest race tracks ever at the Santa Clara County Fairgrounds. To be sure there was some sniveling by some top riders, who came to the track with a mental picture of a "nice" narrow groove. But you have to expect that everywhere you go.

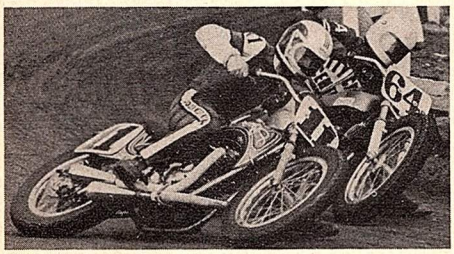
Oh, another thing. This was called the Race of Champions. That in itself isn't odd, since there has been a race called that for the last three or four years. Last year it moved to San Jose, but it was still a race opened to just anyone. This year promoters Bob Barkhimer Associates and William King (the latter having invented the Race of Champions idea a few years ago) decided to do it right with just winners of 1972 National Championship races allowed to scrap for the 1,100 silver dollars which went to the winner. To fill up the rest of the afternoon, they presented a big money half-mile program for Junior and Expert riders only.

There were lots more trick things throughout the day, led off by a Canadian rider, Dave Sehl, on his factory Halloween-colored Harley hooking a new track record at 26.10 seconds. Sehl, winner of the Atlanta Mile National this year, then set another track record for ten laps in the first heat race. John Hateley came home all alone in second, with Frank Gillespie nipping Jim Rice for third. Chuck Palmgren did another trick thing to win the second heat: he passed Kenny Roberts on the outside of turn one for the lead and the win. Last year's San Jose Race of Champions winner, Terry Dorsch, picked up third. The third and final Expert heat of the program was all Gary Scott's, until Don Castro passed him, that is. Castro's Triumph was really trick, with the Fiberglas Works hand made seat, fender, and gas tank combination stretched out all over his Trackmaster frame. Made it hard to change plugs. (I forget that it also included the number plates molded in, too). David Aldana grabbed the lead in the Expert semi, the last chance for three riders to make it to the final, and looked back every so often to see Eddie Mulder lose second place to Gene Romero and third place to Jim Rice. An interesting thing is that

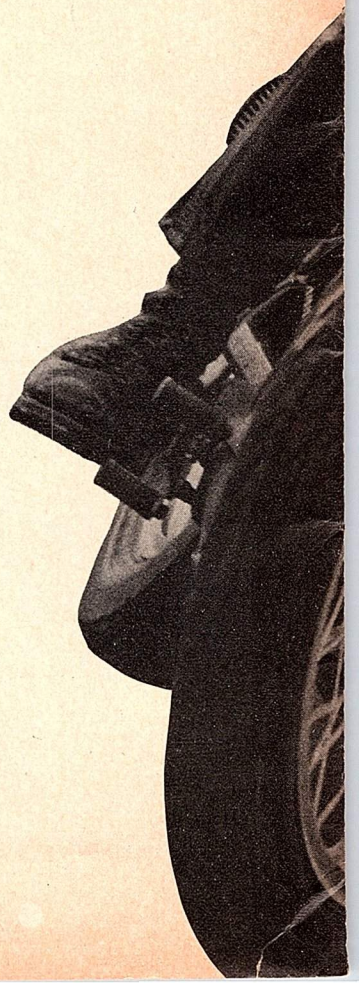
John Hateley lifts the wheel as he powers out of turn four. John rode a Triumph borrowed from Gene Romero.



Don Castro (11) passes Gary Scott to win their heat. Check Castro's far-out gas tank.



First turn of the Race of Champions. Winner Sehl is just behind Palmgren (38).



Romero won the Half-Mile National here this year and Jim Rice won the Mile National. That shows you what different track conditions will do. Aldana kept the lead and took the win, riding a Harley-Davidson for the first time (Mert Lawwill's spare). The following week Aldana signed a contract to ride Nortons in 1973. Well, Harley can't have everybody. Speaking of Harley, Gary Scott was seen on one in practice. Hmmm . . .

Next, the actual Race of Champions. (In reality it was run before the last two Expert heats for the benefit of somebody somewhere in the country watching it live on cable TV through an outfit called Video Techniques of New York.) Gary Scott, winner of the last dirt track National of the season at Ascot, ran away with it, just like he did with his heat. Also, just like his heat, he didn't win it. Under pressure from Dave Sehl, Scott's Triumph broke a rocker arm with a couple of laps to go and Sehl took his silver dollars home to Canada. When Scott broke, everyone naturally moved up one spot, and Harley's Mert Lawwill, who had been riding high, wide, and handsome in the semi-cushion, was second, and Roosevelt and Indy winner Chuck Palmgren slid into the number three spot. Newly crowned Grand National Champion Mark Brelsford, who had had a bad time all day and finally wound up riding little brother Scott's motorcycle, wound it up to fourth. Rice, Romero, and Scott rounded out the next three positions ahead of Dick Mann, who pulled in with a blubbering BSA on lap seven, to finish eighth in the eight man field of the best dirt track racers (sic) of 1972.

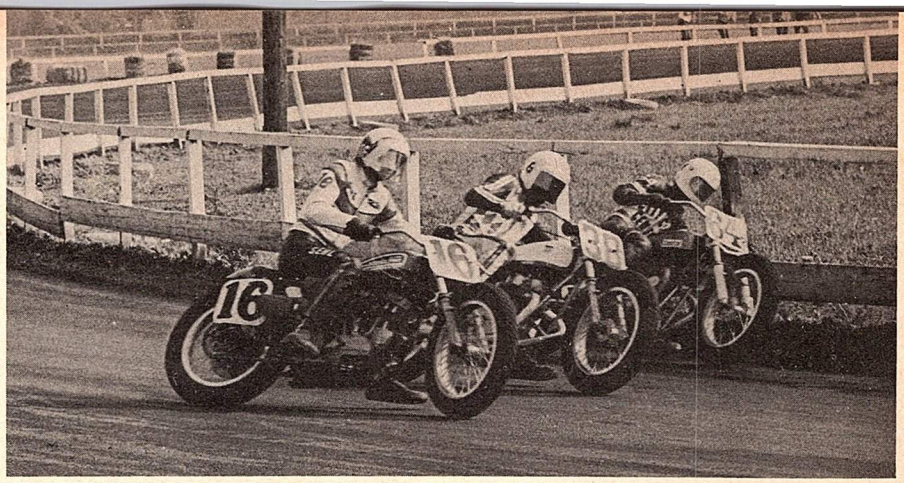
Scott Brelsford, like his brother, finished at the top of his class in 1972. He is probably the best Junior rider in the country, and if he isn't the horsepower of his factory-sponsored Harley makes up for it. It is unusual if he doesn't win wherever he rides, and win by a large margin. Like I said, this race was unusual.

AD-TO -HEAD COMPETITION.

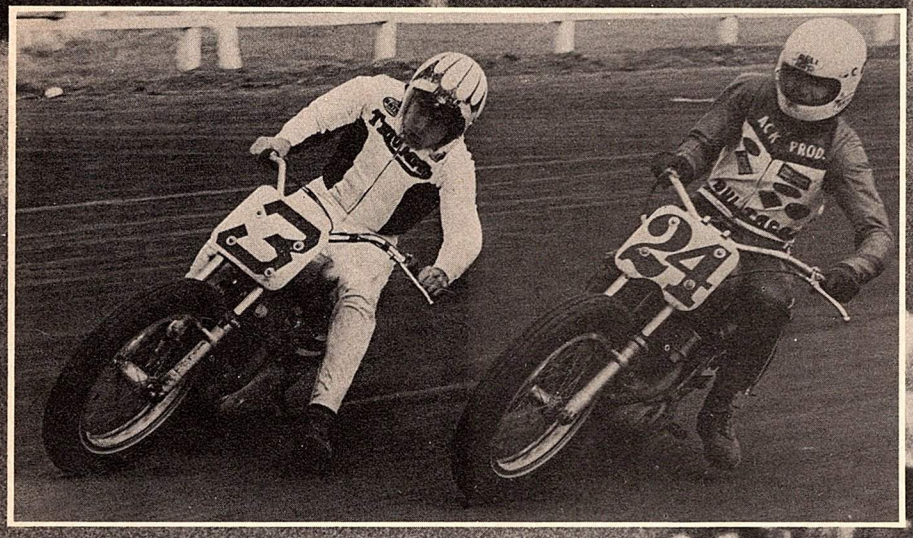
Dave Sehl took everything home to Canada.

The San Jose Race Of Champions

Oh, Scott won all right, but an Oklahoma rider breathing California sunshine for the first time kept Brelsford's H-D on the cam at all times. Bruce Townsend, riding for Carl's Sport Shop of Oklahoma City, after taking his heat race, took the lead in the final, but only for a lap as Brelsford took over and took off. Townsend wasn't giving in, however, and ran the race stuck to Brelsford's rear wheel. A bobble by either one probably would have sent both of

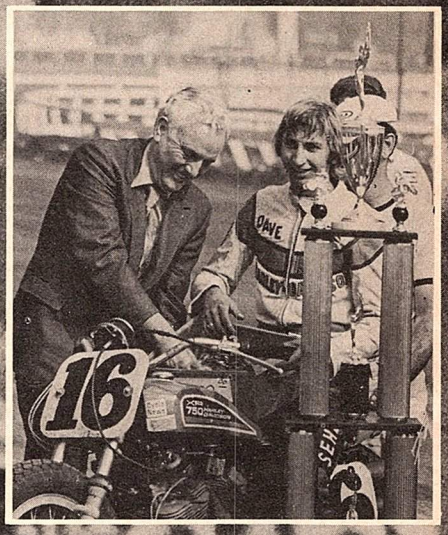


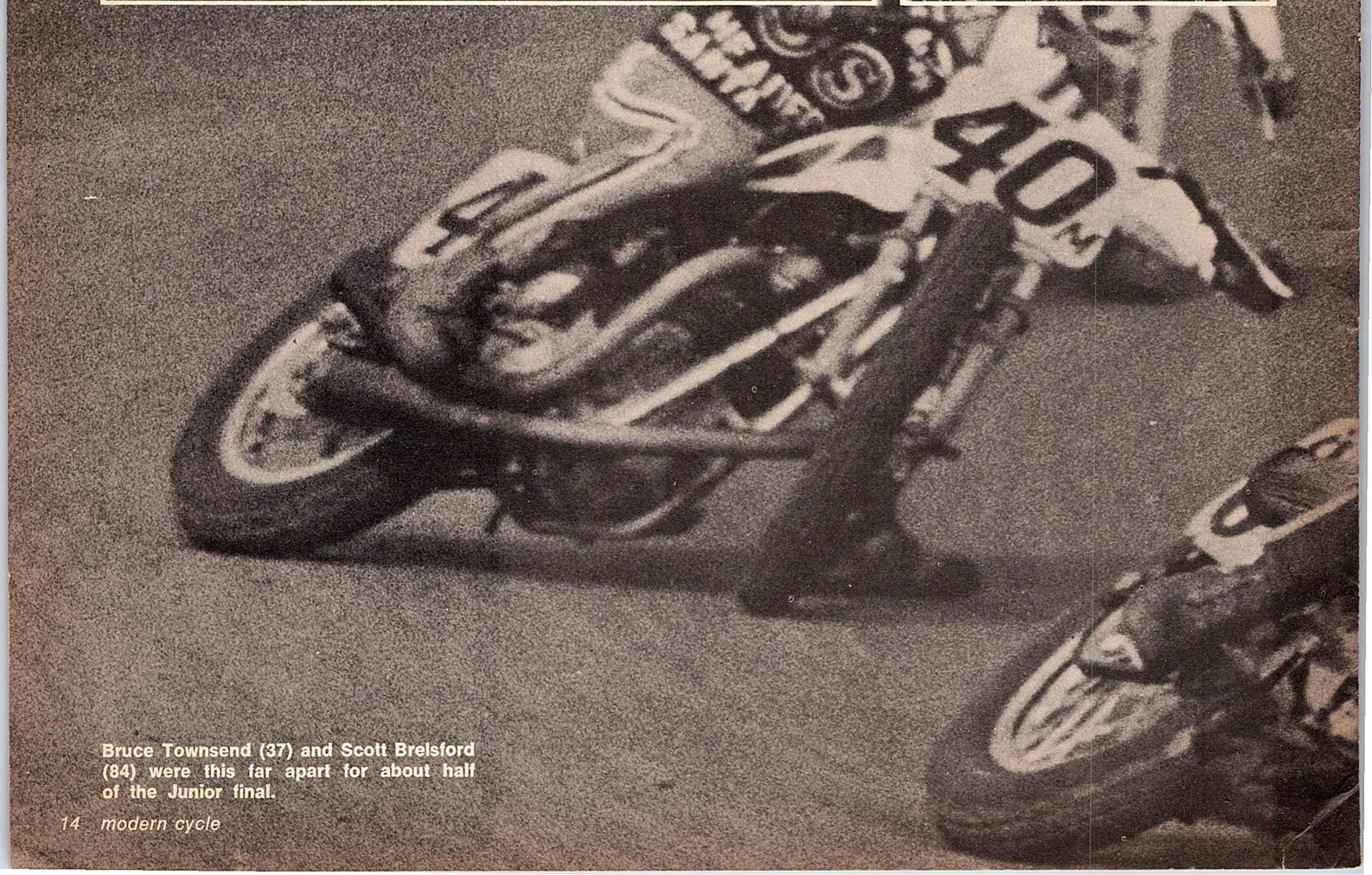
Jim Rice moves to the inside to pass Gene Romero in the final turn of the Race of Champions.



Dave Sehl (16), Chuck Palmgren (38) and Gary Scott indulge in some tight formation flying. Check the left feet.

Happy winner Dave Sehl receives eleven hundred silver dollars from California State Senator Al Alquist.





Bruce Townsend (37) and Scott Brelsford (84) were this far apart for about half of the Junior final.

them through the fence. That's the way they finished, with Ascot high point Junior rider Tom Horton beating back Arizonian (is that a word?) Brian LaPlante. The next duet was Jim Crenshaw and Mike O'Brien, with Crenshaw seeing the checkers first.

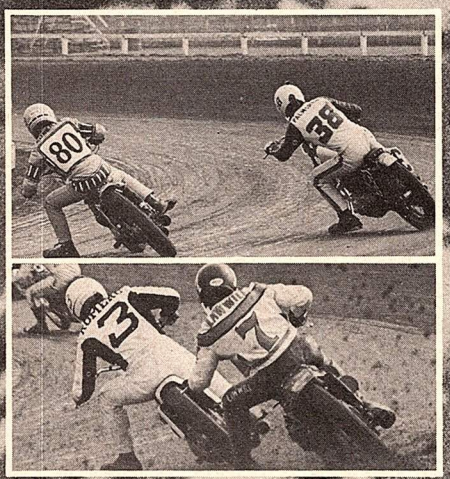
At the start of the regular Expert final, which also paid about a grand to win, again Gary Scott took the lead. Between races Gary's pit crew shaped his motor and here he was again. But, as things have a way of repeating themselves, so did Gary's day-long curse of leading everything and winning nothing. None other than Dave Sehl passed the rookie on the second lap and calmly motored on to the win. Scott hung on to second to the finish and had no trouble from Chuck Palmgren, who was having his own troubles with Texas' Mike Kidd, riding a borrowed Norton. Twice Kidd got around Palmgren, and twice Palmgren got him back. Rice got a drive on Romero and Roberts and zapped them both to finish fifth. Roberts, Romero, Aldana, Hateley, Gillespie, Dorsch, and Castro filled out the field.

When it was all over, Dave Sehl had the biggest problem of all: how to get everything he brought with him back in his van in addition to two track records, a six-foot trophy, about $2,200, and the respect of several thousand people. Trick. ●

Report by Dan Mahony

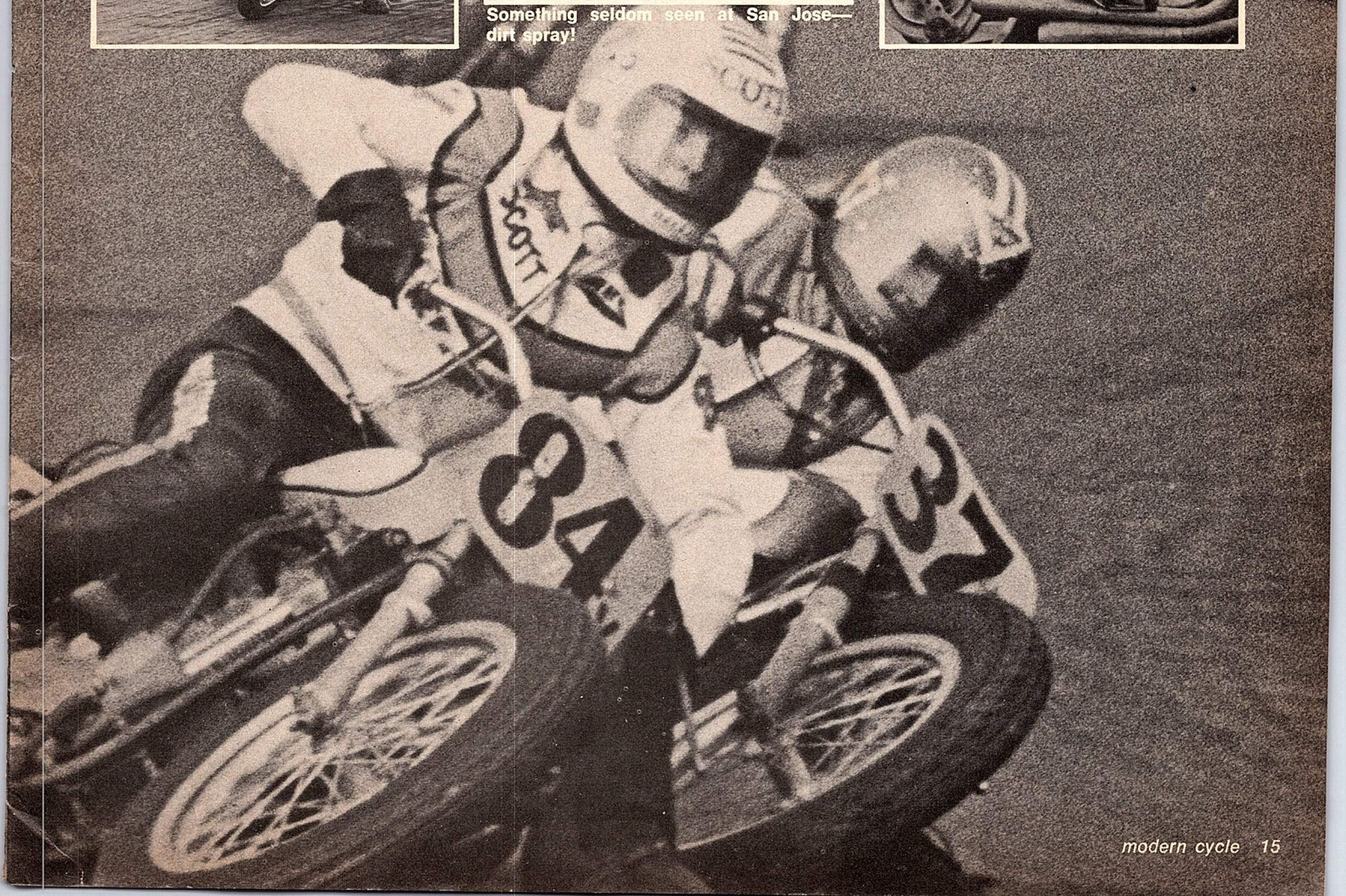
Dave Aldana, on Mert Lawwill's spare Harley-Davidson, dices with Frank Gillespie and Chuck Palmgren in practice.

Chuck Palmgren drives around Kenny Roberts in turn one to take the lead and win their heat race.



Something seldom seen at San Jose—dirt spray!

Chuck Palmgren finished third in both the Race of Champions and the Expert final.



POWDER P

World's Largest Powder Puff Race!

To say that the 14th annual Dirt Diggers' Hopetown Grand Prix was a success is truly an understatement! The Powder Puff race was 52 girls strong!! To my knowledge, there has never been a Powder Puff race this large in the whole world.

Hopetown is an AMA-sanctioned, District 37 points paying GP. Grands Prix events in Southern California can only take place once in each quarter of the year. The entries range from desert, scrambles, enduro, and motocross riders each receiving points in their own classification towards their earned number plates. The course at Hopetown (which is an old western movie ranch owned by Bob Hope) is 2½ to 3 miles long containing every type of terrain you can think of; up and down hills, sand, off-camber turns, fire roads, fast straightaways, rocks, and a horrendous mud hole for which the Dirt Diggers M.C. are famous.

The entry fee for Hopetown has always been a little high ($10). However, I've never really witnessed anyone complaining. The starting grid will take up to 72 entries, so as you can see the Powder Puff class has room to expand. Even on the morning of the race the Dirt Diggers will accept extra Powder Puff entries. The other classes are usually filled up on the first day that mail entries are received.

Fortunately for the girls this year the Powder Puff race was held on Sunday morning instead of Saturday (this is a 2-day affair). On Friday night before the event some unknown person tip-toed to the mud hole and filled it full of water. This unknown person should have checked the weather report for the evening as Mother Nature struck her blow as well with a mild rain shower. I did not witness the mud hole myself on Saturday, but the wild stories circulating through the pits on Sunday were unbelievable! As I viewed the infamous mud hole on Sunday it really didn't look too bad, but who knows how many motorcycles from Saturday were buried underneath for traction.

The worst part of the Powder Puff race is the start. The girls are lined up ten to a row with engines started and in gear. The starting area is wide and has a fairly long straightaway before the first turn. It's between the actual starting line and the first turn where you can count on at least one accident. I was assigned number five, front row, right smack dab in

(Text continued on page 69)

UFF POWER
18
26
5
BULTACO

UP ON THE PEGS

With Dave Ekins

IT'S AWARDS TIME FOR 1972

Looking back at 1972 we can call it the year of reassertion. In AMAs National Championship racing circuit Harley-Davidson has reasserted itself into the Number One position; Mark Brelsford as the Grand National Champion, and H-D also picked up the Manufacturers Championship. (Gad! That sounds like it came right out of Kentucky!) They did it all with a "new" V-twin very much like those used during their 1913 campaign.

The "Merlin the Magician Award" will have to go to Harley-Davidson's racing chief Dick O'Brien, not because he did the trick with a so-called obsolete design (V-twins really make a lot of sense when applied to motorcycles), but because he does it with a fraction of the budget allotted those certain Japanese firms; and he does it with one basic motorcycle.

Although it is called a '73 model, we tested the Yamaha TX 750 in 1972 and are naming it the "Best Road Bike of the Year." By a clever gimmick called "Omni-Phase Balancing," Yamaha has reasserted the big vertical twin in this age of the multis. In case you haven't read our test, it's one hell of a motorcycle!

Going on to "Best Enduro Bike," and I know a whole lot about this subject, I'll have to name Bultaco's 250 Alpina. The basic reasons for this is that the bike is not an environment spoiler. It makes very little noise and puts its power to the ground in such a way as to not damage the tundra and flora. So, Bultaco gets our Best Enduro Bike Award for '72 for creating a motorcycle that they really didn't intend to make.

Modern Cycle's "Best Dirt Racing Bike Award" was an exceptionally close contest, First, we had to rule out the specials that nobody can buy, like the Suzukis DeCoster and Robert ride. And then we had to rule out those other specials from Yamaha and Kawasaki that contracted American riders are campaigning in the States. That left us with showroom machines. Among these we found the CZ to be the best outright dirt racer.

We have an "Unsung Heroes Award" to recognize the wrench twister who twisted best. In this case it's a double award because both guys did the same. Their private entry Kawasaki road racers were consistently faster than those the factory fielded. Irv Kanemoto and Kevin Carne are the recipients for making Jerry Greene's 500 and Cliff Carr's 750 Kawasakis, respectively, out-perform their factory-backed cousins.

REMINISCING

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MC

Honda's SL-350, a few historic points came to mind that I thought should be passed onto the reader. An ancient photo somewhere in this column pinpoints a remarkable incident in the history of off-road racing. Myself (with no hair), and Bill Robertson, Jr. (with funny hair on the right), are being refueled by Bill Robertson, Sr. We're

under the wing of Walt Fulton's Cessna 180 on the Chapala Dry Lake, Baja, California.

This was Honda Motor Company's publicity stunt to run their new CL-72s from Tijuana to La Paz non-stop. We did it and in doing so created the criteria that evolved into the Mexican 1000, the world's greatest off-road race. One day I'll tell the whole history-making story—if enough of our readers are interested.

The CL-72 was Honda's first production bid for what we now call enduro machines. The year was 1962, about four years ahead of Yamaha's famed DT-1 250cc Enduro.

A BIT OF SAD NEWS

My friend Earl Flanders recently notified me that Alfred Bondy passed away while retired in Switzerland. Mr. Bondy was the man behind Butler and Smith Trading Corporation. He was the man who persuaded BMW not to shut down their motorcycle line in favor of the more profitable automobiles they were making. Al also brought in the NSU motorcycles and distributed them here during the mid-fifties. He sponsored John Penton in enduros on R27 BMWs and myself on several NSUs in the California racing scene. Al also sent John Penton to the ISDT in '62 giving John his first taste of International competition.

Alfred Bondy was a gentleman and true credit to motorcycling here and abroad. There are many of us who shall never forget this wonderful and great man.

LETTERS

We get 'em (naturally). But not like the response we got from our three-part Honda XL-250 project! Of all those letters only one pointed out a potential problem, a problem he himself had. In the last installment we showed the tachometer drive gear and shaft and mentioned "it" could be discarded because we didn't wish to drive a tachometer. Our reader removed the gear and shaft which, incidentally, is part of the passageway that gets the engine oil from the oil pump to the overhead valve gear. Obviously, we didn't intend the shaft to be discarded; however, we didn't *stress* the point either and feel badly that one of our readers came into grief because of it. We sincerely hope there are no more who fall into this same trap! •

dirt rider is coming!

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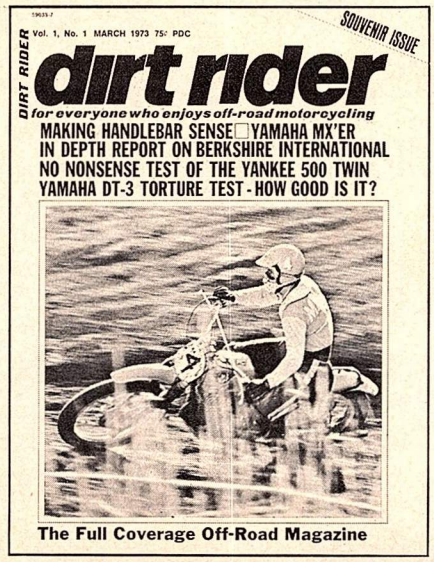
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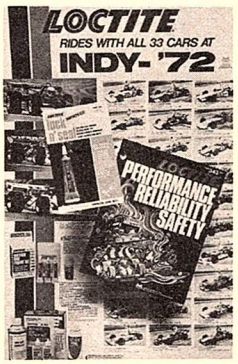
catalog corner

Occasionally MODERN CYCLE receives press releases from various types of motorcycle-oriented companies telling of their new catalogs. The catalogs shown on this page are the latest we have reviewed. Some are for the asking and some require a little loot. Whatever, we've noted the price next to the company's name.



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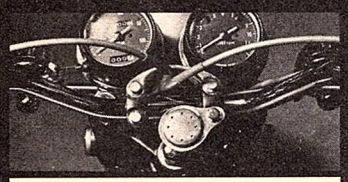

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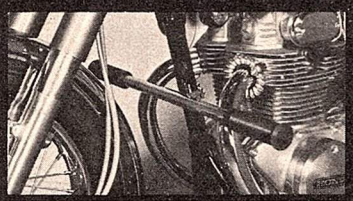

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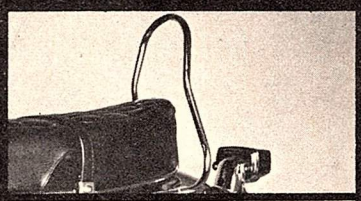

THE "LEANER"
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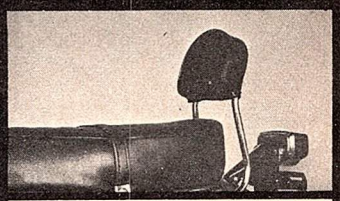

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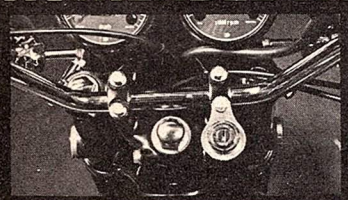

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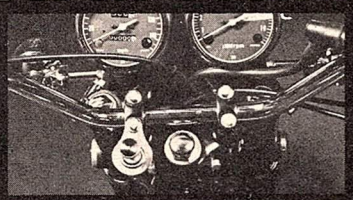

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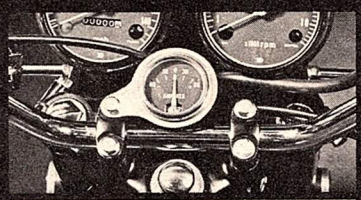

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ADAPTING CHRYSLER'S POINTLESS IGNITION TO ENGLISH TWINS

By Bob Hester
and Tom Kocsis

In any engine equipped with breaker-point ignition there is a slight, but continuous change in ignition timing over the life of the points. In English twins this is especially true. One set of points will always wear faster than another set causing cylinders to fire unevenly, which in turn causes carburetor balance problems and bad vibrations.

Engine performance may be maintained as the points wear by resetting the timing and readjusting the points. But even when properly adjusted they will eventually wear to the point of replacement.

Also in breaker-point systems is the condenser. The condenser helps the coil develop higher voltage because it speeds up the collapse of the magnetic field. It also increases ignition point life because it reduces arcing as the contacts open. The condenser is not needed in the electronic system because there are no points and the collapse of the field in the ignition coil primary is controlled by electronic circuitry.

In the electronic system the pick-up coil and control unit have replaced the contact points and condensers and unlike contact-points are waterproof and have no wear.

Therefore, periodic checks of points and timing become unnecessary, ignition maintenance is reduced to inspection of plug wires and spark plugs. Spark plug life is also lengthened because there are no points to deteriorate and cause misfire.

Along with benefits such as being pointless, water and oil proof and providing longer plug life, the electronic ignition is also more accurate with a hotter spark, approximately 15,000 volts, hotter than conventional systems, inexpensive and with parts available throughout the country.

HOW IT WORKS

With the exception of the mechanical advance unit everything in the electronic system has been changed. The pick-up and reluctor have "physically" replaced the cam and breaker points. The word physically is used because although they do the same job, it is actually done quite differently. The pick-up unit consists of a permanent magnet and a coil that is wound around a pole piece. The pole piece is an extension of the mounting bracket and is attached to the permanent magnet. (Fig. 1).

The reluctor is a gear-like component that is attached to the mechanical advance unit in the same position as the cam in a breaker point system. The reluctor is *not* a magnet but it does provide a better magnetic path than air. In others, it is capable of reducing "reluctance" (resistance to a magnetic field).

In a general way the reluctor and pick-up unit do electronically what the cam and rubbing block do mechanically in a breaker point system. Although the electronic components replace the cam and points they operate quite differently. For one thing, the pick-up is *not* a set of points and there must be *no* contact between the reluctor and pick-up.

In the electronic ignition system a permanent magnet in the pick-up unit provides a magnetic field from the pole piece to the permanent magnet itself. This magnetic field passes through the coil that is wound around the pole piece. The magnetic field is relatively weak because the air gap between the pole piece and the reluctor does not provide a good magnetic path.

As a tooth of the reluctor approaches the pick-up it provides a better path than air and the strength of the magnetic field in the pick-up is increased. Increasing the field strength at the pick-up coil induces *positive* voltage at one terminal of the pick-up coil.

It should be noted that this voltage is induced as a result of the changing (increasing) field strength and is not caused by physical movement of the field or pick-up coil.

The positive voltage continues to build until the reluctor tooth is exactly opposite the pole piece (Fig. 2). As soon as the reluctor tooth passes the pole piece the air gap starts to increase and the field strength begins to decrease. The decreasing field strength through the pick-up coil windings induces *negative* voltage at the same terminal of the pick-up coil winding. Again this voltage is induced by the change (reduction) in field strength (Fig. 3).

No voltage is induced in the pick-up coil unless the reluctor is moving. The rapid increase and decrease of the magnetic field as the rotating reluctor

teeth approach and pass the pole piece is what induces the positive and then the negative voltage. The induced voltage is very small, little more than a tiny electrical signal that is fed into the electronic control unit.

THE CONTROL UNIT

The function of the signal voltage induced in the pick-up unit is not the same as that of the contacts in a breaker-point system, which open and interrupt the primary current in the ignition coil. The pick-up votlage is a precisely timed signal. It triggers the electronic circuitry in the control unit and in turn this controls the interruption of the current flowing through the primary windings of the coil.

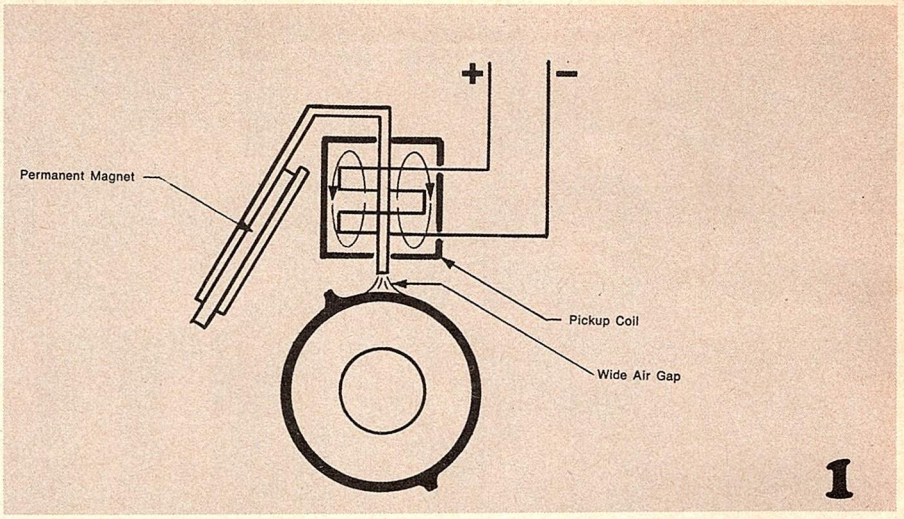
In the electronic ignition system, battery current flows through the primary windings of the ignition coil and then through the control unit which is grounded. This maintains current flow in the ignition coil primary windings pretty much the same as closed contacts in a breaker-point system (Fig. 4). The control units remains "on" or activated and current flows through the primary coil windings as long as *negative* voltage is *not* applied to it.

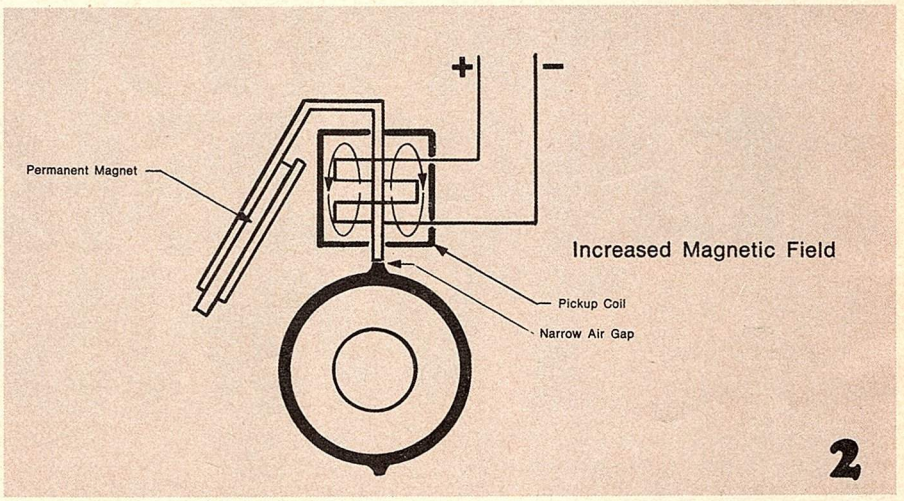
When the reluctor passes the pole piece and the pick-up voltage turns *negative,* it de-activates or "turns off" the control unit circuitry. At this point current cannot flow through the control unit to ground and current flow through the ignition coil primary is interrupted. As in all induction coil ignition systems this interruption of the current flow in the primary circuit induces enough voltage in the secondary windings of the coil to fire the spark plugs (Fig. 5).

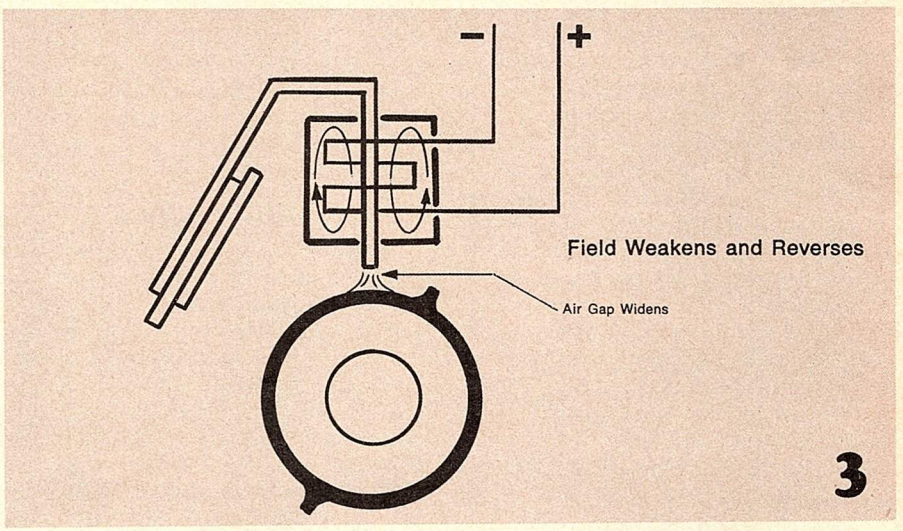
In adapting this system the ballast resistor must be used. Only the auxiliary side is actually in use. This is the side that is completely filled. (Fig. 6). This side of the resistor is a 5-ohm resistor. It protects one circuit of the control by limiting current flow. The blue and yellow wire from the resistor feeds a full 12 volts to another circuit of the control unit.

The coils in this system are standard Lucas coils wired in parallel. This fires both plugs at *exactly* the same time. The only problem resulting with this system is that the fuel mixtures and jetting is hard to read on the plugs. But once it is right, it's right.

For normal street highway riding it is to the owner's advantage to wire the two coils in series. This setup still provides a good, hot spark with stock plugs, and it takes much less current to run. Wiring the coils parallel is advantageous for high rpm competition riding.



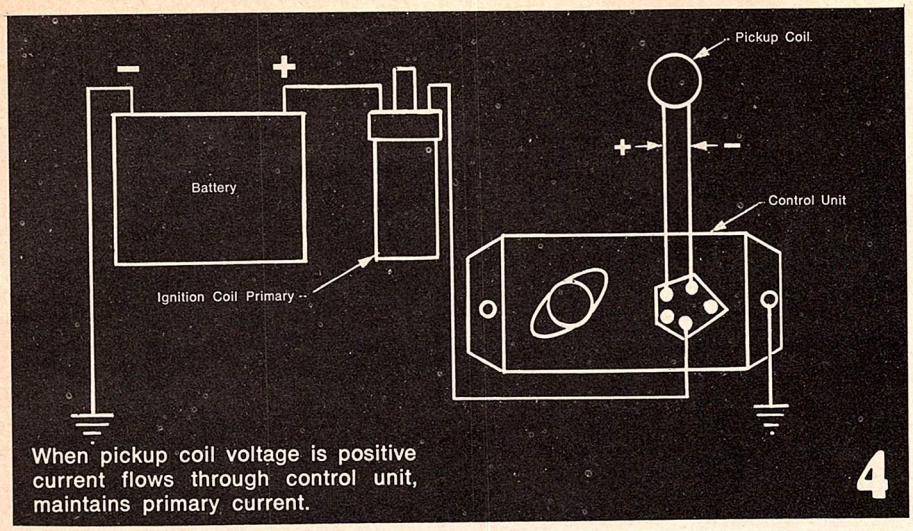


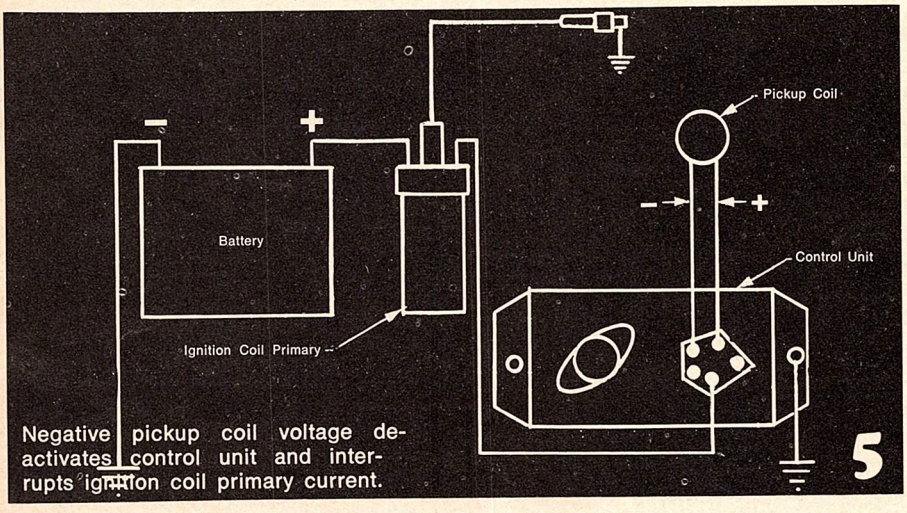


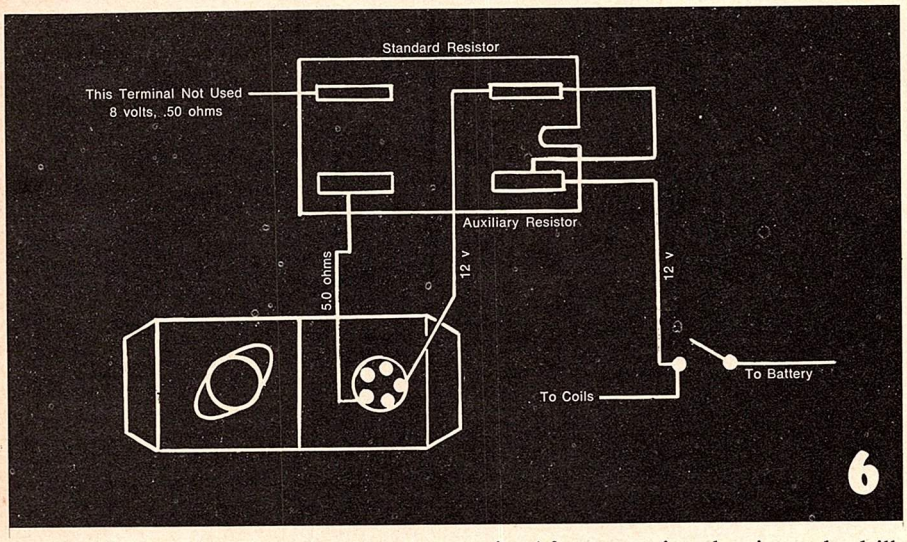
CONSTRUCTION

The first step in construction is the removal of the points, points mounting plates, all pillars, etc. There should be nothing left but a plate full of holes. Next, remove the mechanical advance unit and make sure there is no more than 0.003-in. side play between the breaker point cam and the advance body. If there is more play than the figure given the unit *must* be replaced before construction. Now remove the breaker point cam from the advance unit and machine the cam to 0.638-in. This will give you just a bit more than a press fit. (This fit cannot be sloppy: The reluctor points must be square to the pick-up coil). Then reassemble the advance unit.

The next step is the reluctor (C.P. No. 3656017). Very carefully remove the







six points noted on Fig. 7, leaving any two points 180 degrees apart. While removing the six teeth you will notice that the edges of the remaining teeth appear to be rough. *Do not* try to clean or smooth them in any way. This rough edge is needed to quickly decrease the magnetic field and induce negative voltage in the pick-up coil. If the teeth are rounded and smooth the voltage signal to the control unit will be erratic. After removing the six teeth, drill two holes 180 degrees apart, but at 90 degrees from the remaining reluctor teeth. With a No. 29 drill, tap to accept 8-32 machine set screws. These screws must not rise above the reluctor body (Fig. 8).

Next, take a Dremmel or similar tool and remove the metal shown in Fig. 9 inside the points housing. This clearance is necessary for the pick-up to fit inside the points housing with proper clearance to reluctor. *Note:* 3/32-in. is all that is necessary or you may cut through into the timing gear side of the cover.

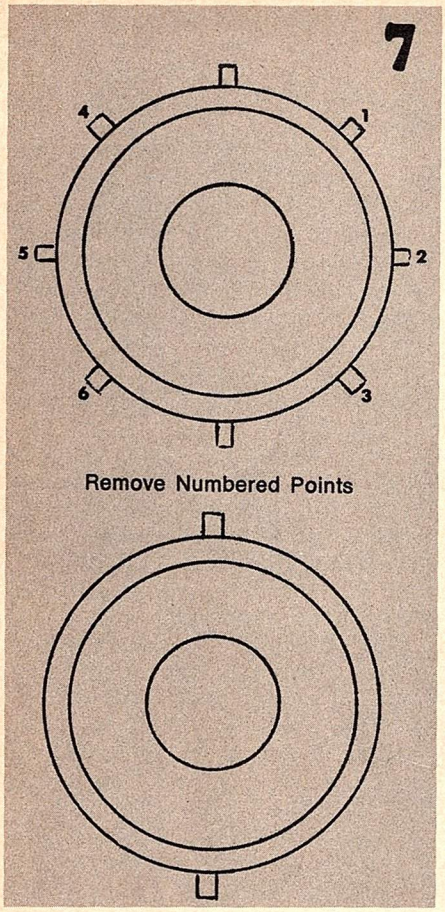
When these operations have been completed, install the mechanical advance unit. You can install it in any position as it is no longer involved in initial timing. *Do not* install the reluctor. Next install the old breaker point plate, using the mounting holes running up and down. Then, slide the reluctor onto advance. *Do not* tighten set screws. This is just to position the pick-up coil.

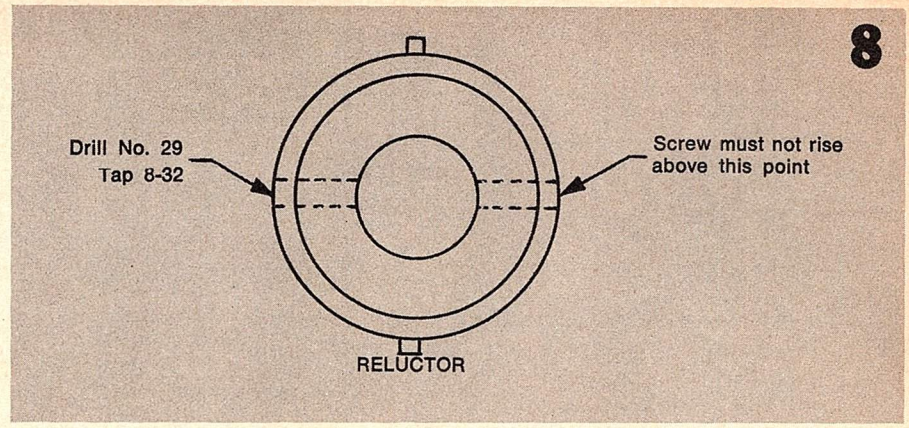
Using a piece of *steel* shim stock 0.006 to 0.008-in., install the pick-up coil on the plate and insert the shim between an aligned reluctor tooth and the pick-up coil pole piece. At this point you will notice two holes in the pick-up coil. The small hole is only a pivot point and need only be marked as such. The larger hole is for adjustment of the air gap and the hole for the screw must be in the approximate center of this hole. When these points are marked, remove the plate. Next, drill the smaller hole with a No. 36 drill and tap it to 6-32. Drill the larger hole with a No. 29 drill and tap it to 8-32. Then, using a 6-32 x 3/8-in. cap screw and a 8-32 x 3/8-in. cap screw, secure the pickup coil to the mounting plate and reinstall the plate in the motorcycle. Secure it with standard breaker point plate bolts.

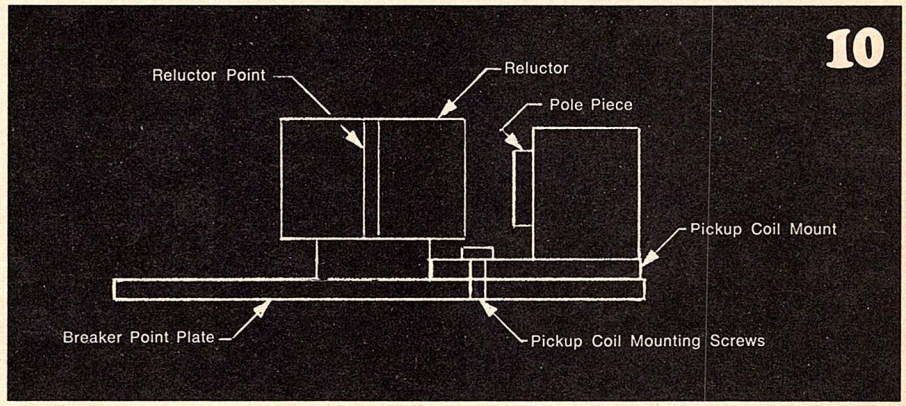
At this point I might mention that the plug on the end of the pick-up must be cut off and the grommets trimmed to feed the wires through the existing holes in engine case. These wires are not color-coded but connections are important, so mark it any way you can. The easiest to remember is that the wire from the coil, which is closest to the breaker plate, goes to the brown and white wire in main harness.

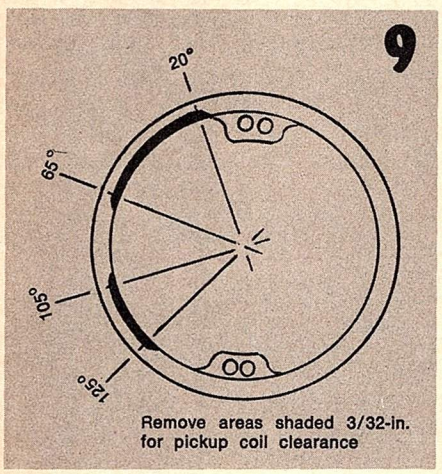
Note: These next steps are very critical and if done properly need only be done once. These are the only adjustments on this system.

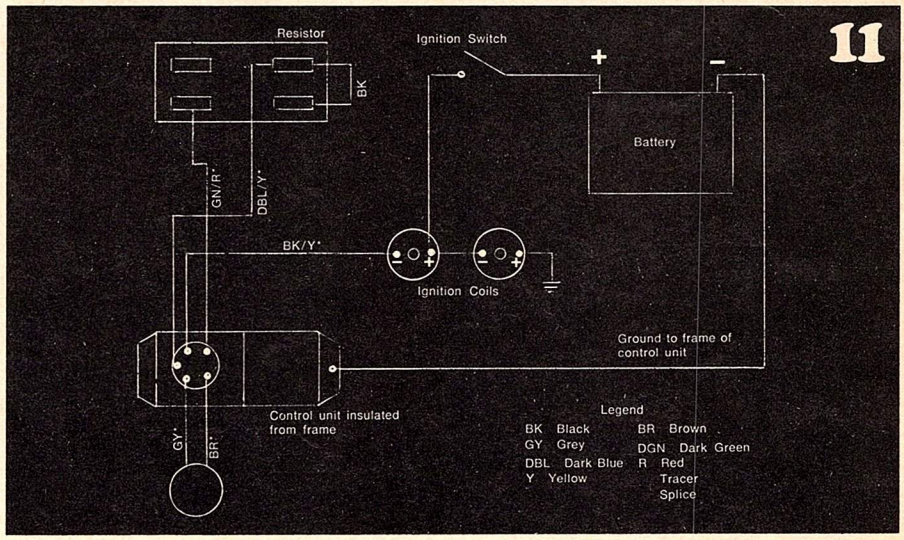
First, using a crankshaft degree wheel, set the engine crankshaft at specified timing. (Since this was originally done with a Triumph, 38 degree full advance was used.) Then lock open the advance unit at full advance. Next, take the reluctor and install it on the mechanical advance unit with either reluctor point in a direct line with the pick-up coil piece (Fig. 2). Using set screws, tighten the reluctor to the advance unit, making sure that the bottom of the reluctor is no *lower* than the pole piece of the pick-up coil. This is necessary for clearance of the pick-up mounting screws











(Fig. 10). This will give you basic timing.

Next, set the air gap between the pick-up pole piece and the reluctor. This is the most critical step and if not set properly the machine will not fire. Loosen the pick-up mounting screws and insert a 0.008-in. feeler gauge between an aligned reluctor tooth and the pick-up pole piece and adjust until you feel very slight drag on the feeler. Tighten the adjusting screws with the feeler gauge in place. (It will be necessary to use a non-magnetic feeler gauge because a gauge that is attracted to magnetism of the pole piece will give a false "feel" or drag. If non-magnetic feeler gauges are not available, use brass or copper shim stock of the proper thickness.)

Next remove the 0.008-in. gauge and, using a 0.010-in. gauge, check the air gap. A 0.010-in. gauge should *not* slip between the reluctor and pick-up pole piece. *Do not use force.*

Next, make sure the crankshaft is still at 38 degrees (and remembering that firing occurs when a reluctor point is exactly opposite the pole piece) rotate the point plate until a reluctor point is exactly opposite the pole piece and tighten the plate. Timing is now set and need not be worried about again. The next step is mounting the control box (C.P. No. 3438850) and ballast resistor (C.P. No. 3656199). When mounting the control unit you will note that it is epoxy filled. This unit is totally solid state and is not affected by water, vibration or position. However, it was designed for a *negative ground* system, and as all English machines have positive ground, it *must be insulated from contact with any parts of the machine.*

The control unit shown was mounted on the front of the rear fender with Norton Commando muffler mounts, with the harness plug to the left of the down tube. The ballast resistor may be mounted in any position, but not more than 12 inches away from control unit. It was mounted on the left bottom of the battery box, just above the control unit. This ballast resistor is also filled and is waterproof. Unless you keep your bike very clean I would suggest an alternate position.

Next remove all wiring from the coils, including the condensers and capacitors. Take the wiring harness (C.P. No. 3588364) and install it to the control unit and ballast resistor. *Note:* The brown wire at the resistor may be clipped off and discarded.

To simplify matters, install a second ignition switch at a convenient location on the machine. (This need only be a two-position toggle switch). Because of the negative ground system, it would be best to keep the unit separate from the rest of the electrical system. Next, run a wire from the *negative* post of the battery to the case mounting bolt of the control unit. This is the only ground wire necessary.

Next run a wire from the *positive* post of the battery to one terminal of the auxiliary ignition switch. Then, run wires from the ignition switch to the blue wire at the resistor and to the positive side of *both* ignition coils, or ground the coils to the frame. (Fig. 11). Run the remaining harness along the back-bone to the coils, install the black and yellow wire to the negative side of one coil and a jumper wire from that terminal to the negative post of the second coil. In the case of series wiring, run a jumper from the positive pole of the first coil to the negative pole of the second coil. Then ground the positive pole of the second coil to the frame of the motorcycle.

Take the two remaining wires and connect them to the pick-up coil. Note the connections stated earlier. These two wires should be the only wires of the harness that require splicing and lengthening.

You now have an ignition system that was designed for simplicity, reliability and low cost by one of the largest designing and manufacturing companies in the United States. The only difference between their original system and this adaptation is that only two spark plugs fire, instead of eight. Because of the simplicity and low costs, this system is far superior to the standard, inefficient systems used on English twins, which have been commanding exhorbitant prices far too long.

PARTS LIST

Chrysler Part No.	*Description*	**Cost*
3438850	Control Unit	$24.11
3656025	Pick-up Coil	$ 2.80
3656017	Reluctor	$ .94
3656199	Resistor	$ 1.21
3588364	Wiring	$ 2.81

*These prices are subject to change and are local prices (Detroit). They may be more costly elsewhere due to shipping, handling etc. ●

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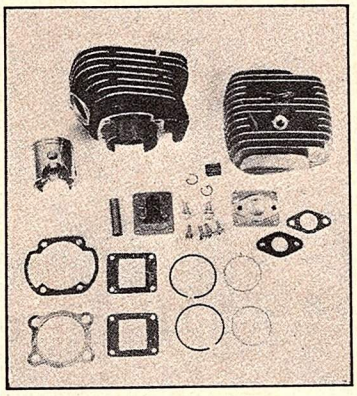

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Bruce Brown and his film "On Any Sunday" are probably responsible for it all. The movie had a sequence that showed a group of youngsters on bikes trying to duplicate the jumps and stunts common in motocross racing. Soon, every neighborhood seemed to have a group of kids who spent most of their free time wheelieing and practicing cross-ups while jumping off curbs. The empty lot down on the corner quickly developed a meandering path studded with obstacles that gave the leg-powered motocrossers an opportunity to show their prowess. It was inevitable that sooner or later someone would come up with organized competition for these young riders.

Southern California has a reputation as the developing grounds for off-beat forms of wheeled competition. Sure enough, it was in Lotusland that bicycle motocross first appeared. Early in June, 1972 Ray Woolsey got together a group of kids on the mini-cycle track at Indian Dunes and held, to the best of our knowledge, the first organized bicycle motocross in the country.

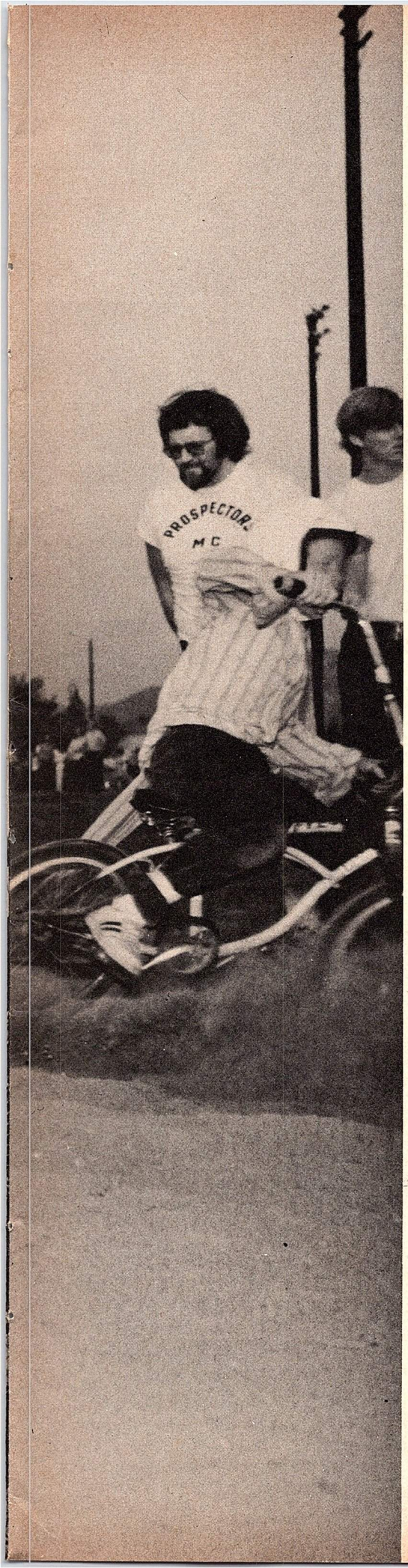
That first get-together proved so successful that now races are held every Sunday afternoon on the Indian Dunes course and an average of 60 riders show up to compete in the various classes. Each class runs 3 motos and one final, giving each contestant four races a day. The classes are broken down by age with the youngest racers running in the 6 to 8-year category, and the oldest riders running in the 15 and up or Open class.

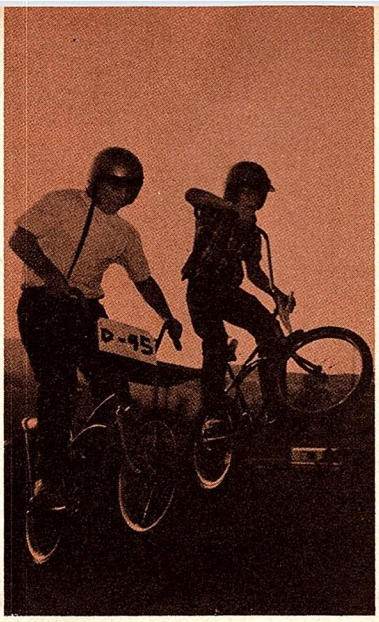
The Sting Ray bicycle is by far the most popular among the competitors, and modifications, mostly for strength, are quite common. Wired spokes, heavy-duty goose necks, heavy-duty handlebars, trick gear changers, heavy-duty rims and knobby tires are all found on the bikes of the more serious competitors. Looks as well as reliability are important to some of the riders and really fancy paint jobs are not at all uncommon. The crash helmets that all of the contestants wear are not just for show. Accidents do happen, and some really badly scratched helmets have emerged from some of these get-togethers.

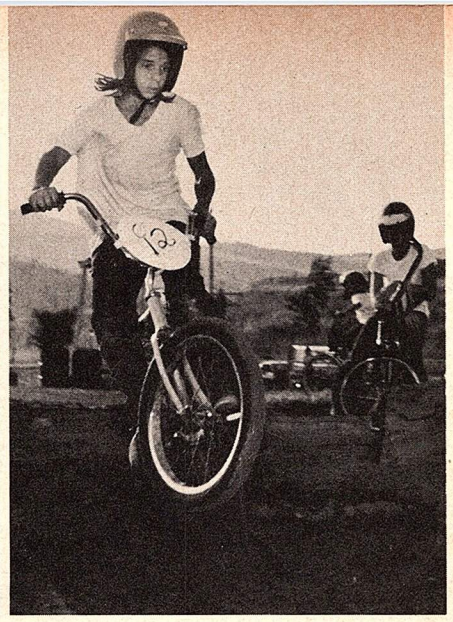
The suspensionless bikes used in these races take a tremendous beating on the rough motocross course. Welding, both for repairs and to prevent breaking, can account for a major part of the cost of one of these racing bicycles. We know of one father who purchased an old bike for $15.00, and soon had an additional $50.00 tied up in the machine just to make it strong enough to stand the rigors of this type of racing. The handlebars on the machines are also subject to a lot of change. The higher the bar, the easier the bike is to handle off a jump. The lower the bar, the better the acceleration off the starting line and coming out of the turns. A lot of experimenting goes on to find just the right handlebar.

Entry fees for the races are minimal: 75¢ gets you entered and you have to fork over an additional 25¢ if you want to enter the wheelie contest. The first two places in each class receive trophies while third place receives a ribbon. Currently, the promoter is considering raising the entry fee in order to be able to offer more valuable prizes.

Motocross for bicycles seems to be catching on here in Southern California. During this past summer the city's Department of Parks and Recreation ran several of these events, and had very good rider attendance. ●

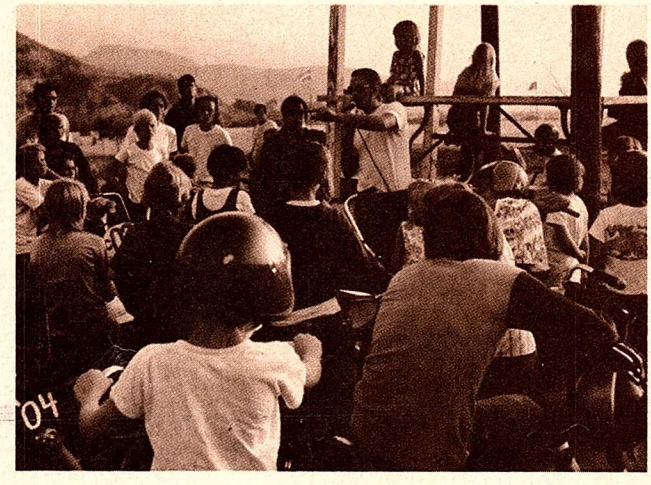


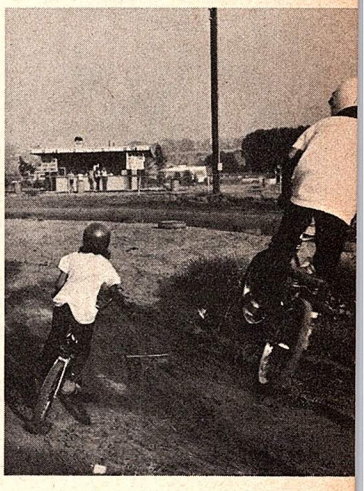


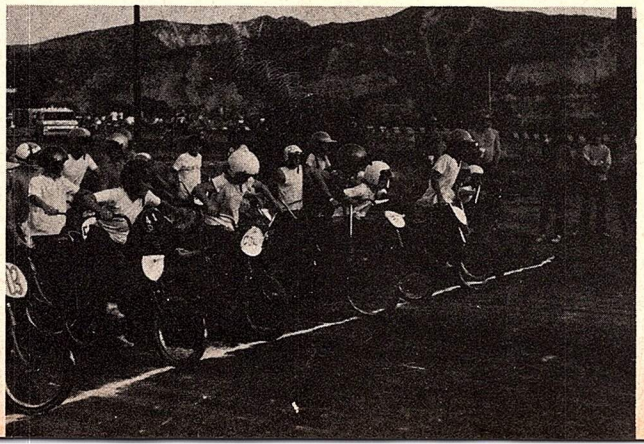


MOTOCROSS FOR BICYCLES

GETTING IT ON WITH THE STING RAY SET.

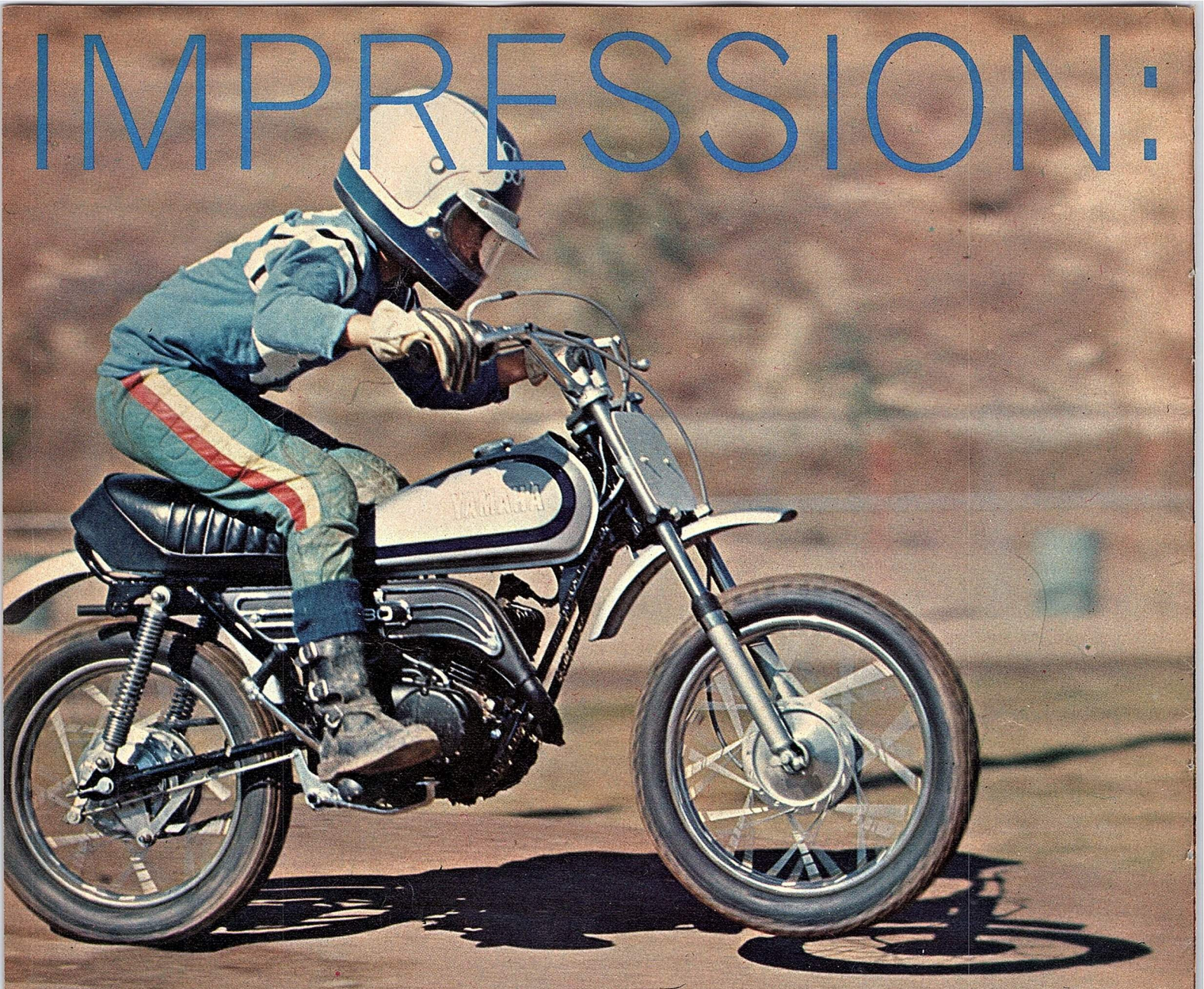






Photos by Bob Titus

IMPRESSION:

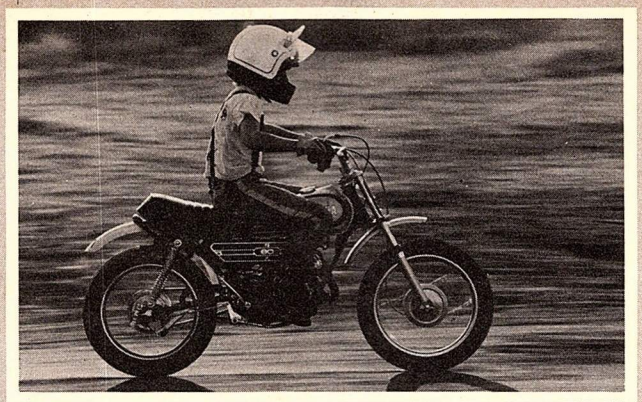


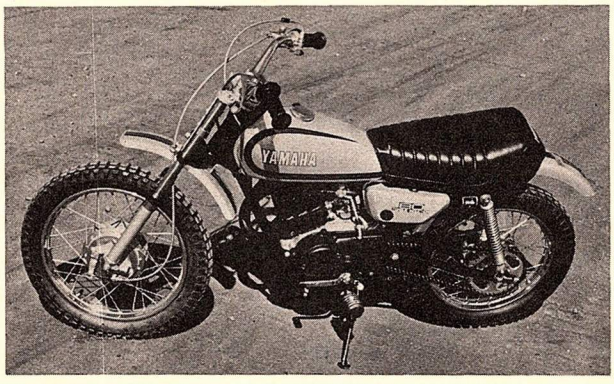
When the Yamaha Mini Enduro was first introduced, several years ago, it created a stir that has yet to settle down. The Mini Enduro was the first of the new breed of machines. To Yamaha must go the credit for creating the class of machine that has come to be called a mini-cycle. Other manufacturers took note of Yamaha's success with their little two-wheeler and quickly jumped onto the band wagon with offerings of their own. In just two short years the mini-cycle field has undergone a definite boom. Keeping pace with developments in the field which they developed, Yamaha has just introduced the new Mini Enduro GT-1 series of machines. Two machines are available in the series, the GT-1 Enduro and GT-1 MX.

Basically, the new Yamaha Mini Enduro is a very attractive machine. However, the lines of the Enduro model are seriously marred by the addition of lights and turn indicators which were obviously designed for much larger motorcycles. The lighting equipment mounted on the Enduro model give the bike a street legal appearance (as a matter of fact, in some states the thing might be street legal). As far as we are concerned this is rather unfortunate since we would strongly recommend that a machine of this size never be ridden on public streets. With all the lighting equipment stripped off the new GT-1 is called the MX. And, though it is by no stretch of the imagination a motocross racer, it is certainly a much more visually appealing motorbike.

At first glance the changes between the older Mini Enduro and the new GT-1 seem to be more cosmetic than technical. The styling on the gas tank makes it look much larger than its predecessor and the saddle has an extremely over-sized appearance. A closer examination of the machine, particularly of the engine compartment, quickly shows that major changes have indeed taken place.

The original Mini Enduro power plant was a 60cc unit with the cylinder canted well forward. Induction was controlled by a rotating disc valve and a very restrictive air cleaner was standard. Yamaha's new machine in the mini-cycle field is powered by a 73cc engine with piston controlled ports. A tiny 16 millimeter Mikuni carburetor draws air through





THE YAMAHA MINI ENDURO 80 GT-1 MX

an element located in a cavity in the back side of the oil tank. A reed valve is fitted in the intake tract and the barrel carries Yamaha's highly regarded 7-port system.

An Autolube injection system is standard on the new Yamaha GT-1. Lubricating oil is carried in a tank mounted on the left side of the machine and fed to a precision pump driven off the right end of the crankshaft. On leaving the pump the oil is carried to the cylinder where it is injected in the inlet tract downstream from the reed valve. With Yamaha's Autolube injection system lubrication is controlled by both the revolutions per minute of the engine and the throttle setting.

A four-speed transmission is carried in unit with the GT-1 engine and, regardless of what the owner's manual says, neutral is located at the very bottom of the shift pattern. To accelerate through the gears you merely lift four times with the toe of your boot. To gear down you simply depress the shift lever. While this is a departure from the "normal" shift pattern with neutral located between first and second, we feel that it is a good arrangement on a machine designed primarily for children. With neutral located at the very end of the shift pattern a youngster will have no problem at all freeing the transmission when he brings the bike to a halt. Another nice feature of the GT-1 transmission is the primary kickstarting arrangement. Should the rider stall the machine in gear it's not necessary to return to neutral before restarting; merely pull in the clutch lever and boot the kickstarter. The thing will start.

Truly civilized is the exhaust system fitted on the Yamaha GT-1s. The muffling is outstanding and an approved spark arrestor is an intricate part of the unit. Carbon build-up in exhaust systems, particularly with two-strokes, can be a problem. Yamaha has made it relatively simple to decarbonize the exhaust system on the Mini Enduro by providing a removable stinger section.

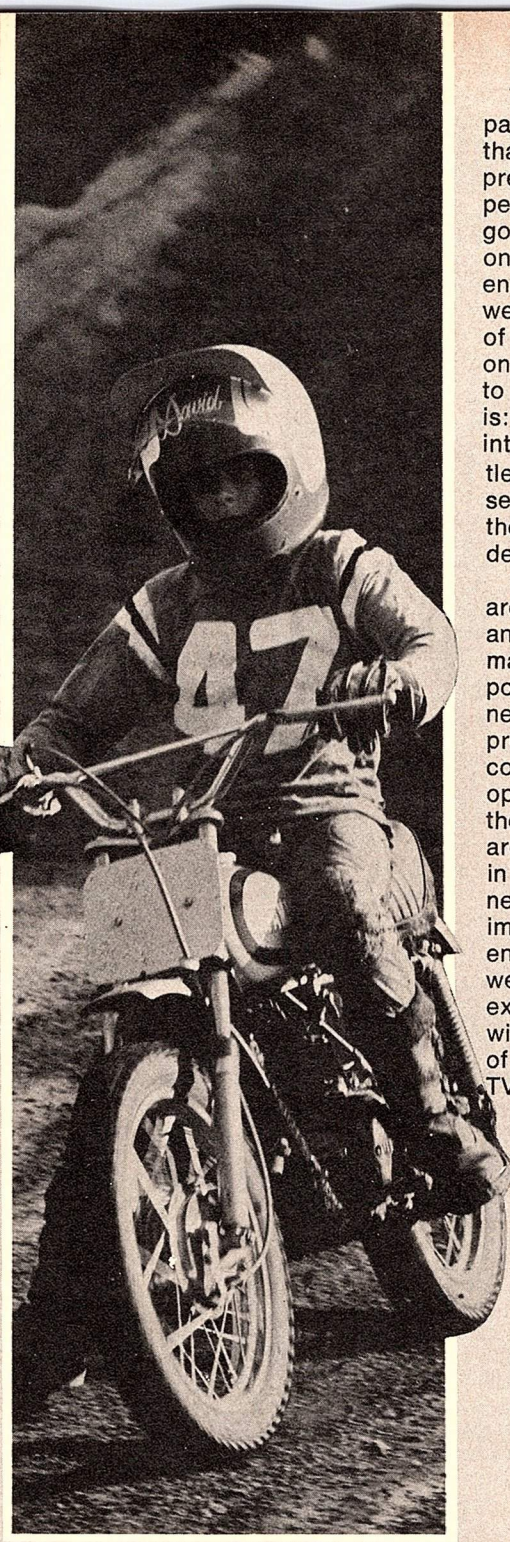
The frame on the new Mini Enduro appears to be an improved version of that used on the earlier editions. The two cradle tubes which support the engine are now welded to the frame rather than bolted in place as they were on the earlier Mini En-

duros. Substantial gusseting has been added to the area of the steering head in an effort to reduce front end flexing. A sub-frame loop supports the saddle and rear fender and diagonal stringers add rigidity to the aft section of the bike. The swing arm on the machine appears to be rather fragile until you remember the use for which the bike is intended. Overall finish on the frame is decent; welds are a bit gorpy but the glossy black enamel does a good job of covering everything.

When considering the suspension on the new Mini Enduro it's again necessary to keep in mind the use for which the machine was intended. Most adults who ride the machine comment that the suspension leaves a lot to be desired, and it does if you happen to be a 180-pound rider. Most of the kids who rode our test machine had absolutely no complaints about the suspension. The rear shocks on the bike are a half-inch longer than those furnished on earlier Mini Enduros and the rear wheel is now down to 14 inches in diameter. These changes at the rear of the machine have resulted in improved clearance between the spinning tire and the rear fender.

The rear tire on the new Yamaha Mini Enduro is a 2.75 x 14 of Trials Universal pattern. At the front is a 2.50 x 15 tire. The braking system housed in the full-width, waterproof hubs is more than capable of handling the demands placed upon it by the Mini Eduro. The waterproof machines are more than just an ad agency's sales gimmick. Anyone who has forded a deep stream and then gotten on the gas knows the supreme pucker that occurs when he goes for the brakes and there is absolutely nothing there to stop the machine.

From the standpoint of styling the new GT-1 Mini Enduro suffers in comparison with its earlier brother. The new bike has a rather bulky appearance that can be traced to the design of the seat and the styling of the gas tank. The new Yamaha mini-cycle may look larger than the first Mini Enduro, but, some work with a tape measure proves that it is not much larger. If anything, the quality of the finish on the machine has improved.

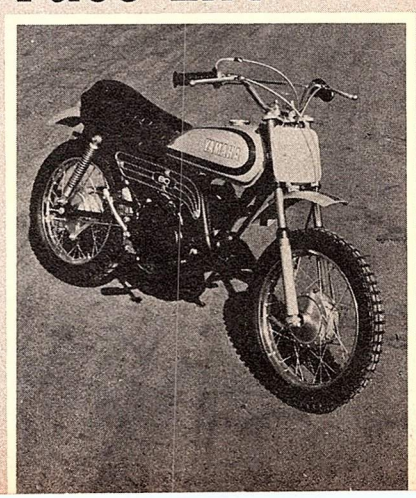


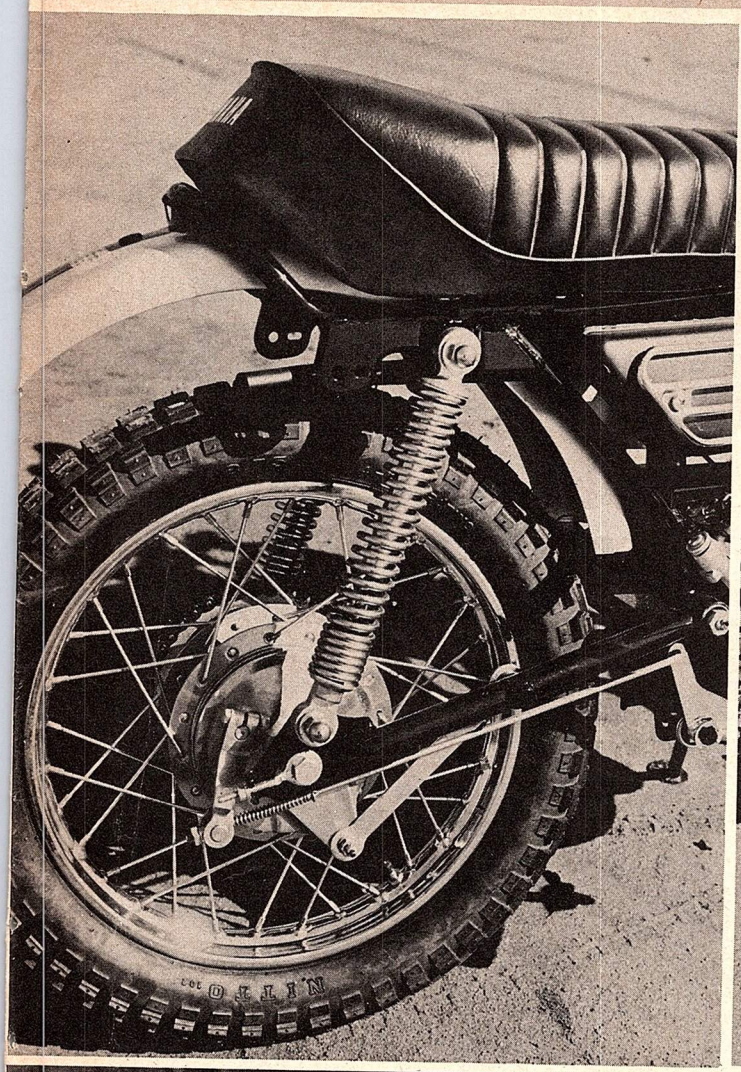
All chrome plating is rich in appearance and the paint is flawlessly applied. The seat is much more comfortable than its predecessor and, with some crowding, it will bear up under the weight of two youngsters.

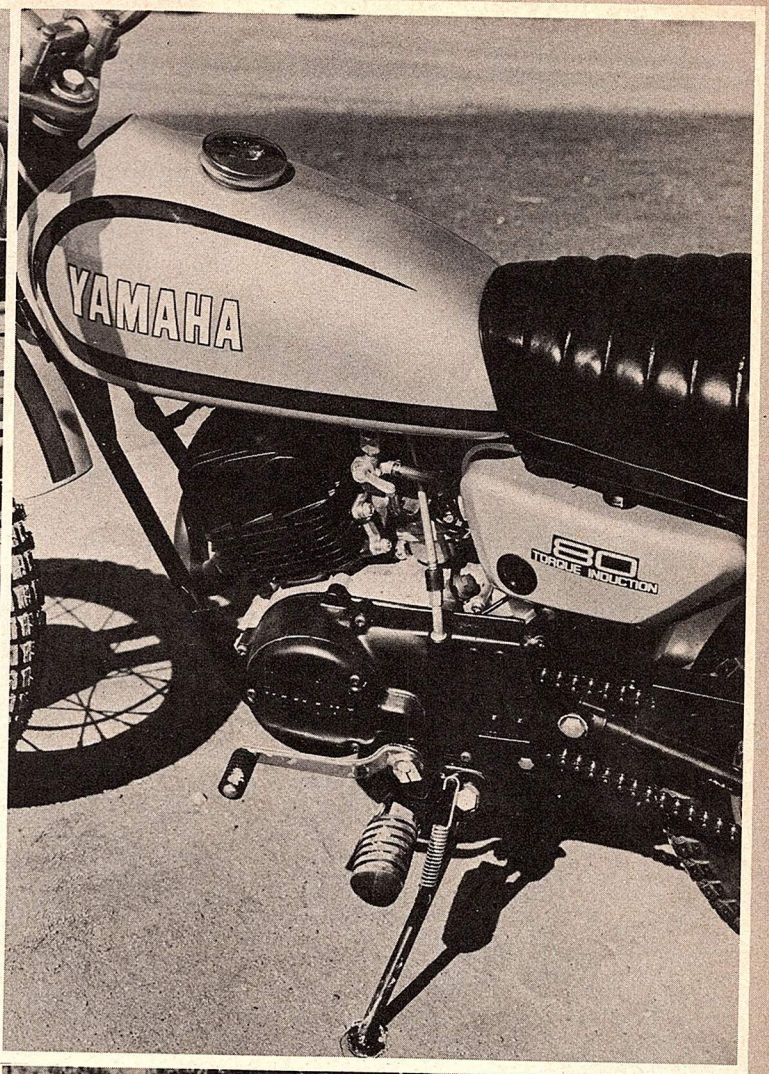
The 13cc increase in engine capacity has resulted in a mini-cycle that is considerably quicker than its predecessor. The GT-1 MX is a peppy performer with good acceleration and good lugging power. The carburetor on the engine has a built-in mixture enrichening jet which aids in cold weather starting. Most people think of this device as a choke and insist on tweaking the throttle when trying to start the engine. The proper drill is: When the enrichening lever is put into use the hand is kept off the throttle, the engine will usually start by the second or third kick. Naturally, when the engine is warm the enrichening device is not used.

Most of our mini-cycle test riders are pretty heavily involved in racing and thus, they are familiar with small machines that really produce horsepower. All of them agreed that the new Yamaha GT-1 MX is a very impressive performer even in its stock condition. Most of them voiced the opinion that once the tuners get to them the new Yamaha mini-cycles are going to be very difficult to beat in competition. In its stock form the new Yamaha Mini Enduro is a very impressive machine; it's powerful enough for its intended use, it is very well finished and it appears to be extremely sturdy. It's a machine that will bring a gleam of joy to the eye of any youngster. Like they say in the TV commercial . . . try it, you'll like it!●

One of Yamaha's Most Popular Machines Receives a Major Face-Lift



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TORQUE INDUCTION

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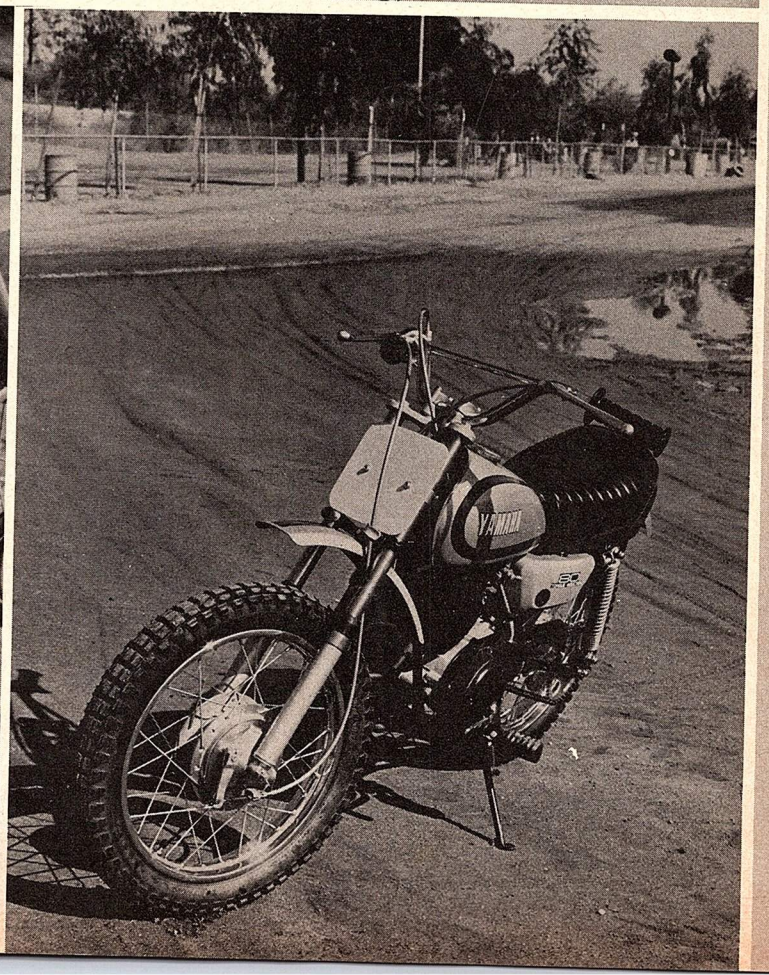
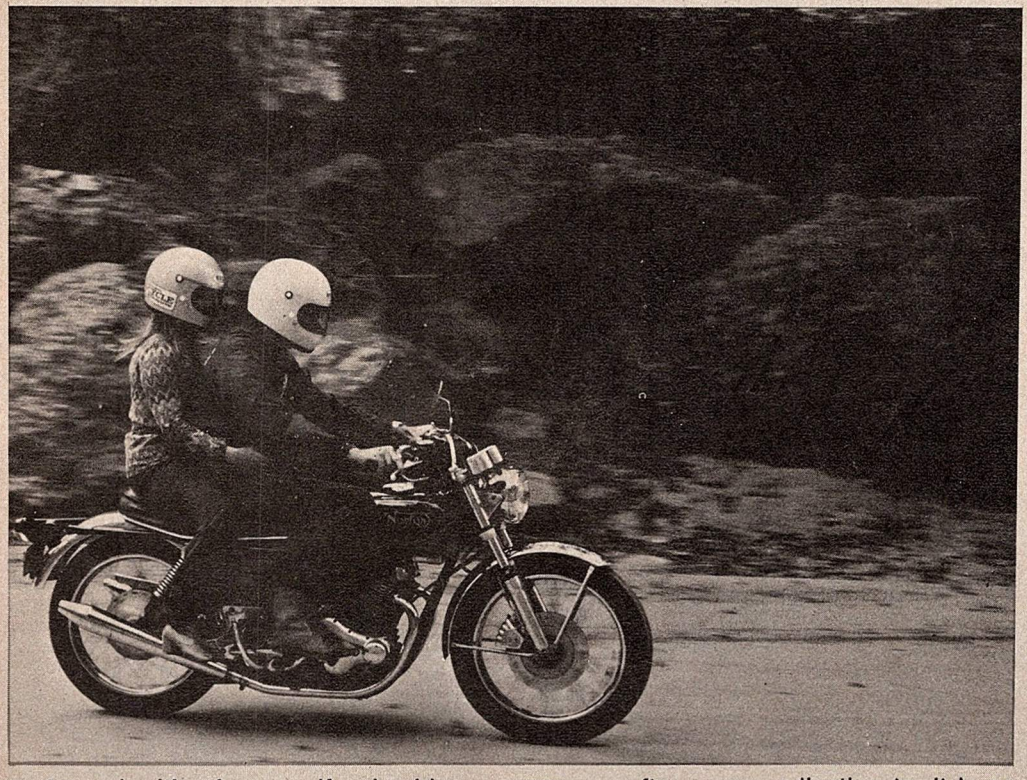

YAMAHA

A Protective Environment for the Road Rider.

One rarely hears much about a safety helmet these days, other than it is or is not approved head protection, that it does or does not meet Z90.1 criteria. Say hallelujah! Let's hear it for those blessed standards and the manufacturers producing products to meet them. The number of lives saved by engineered helmets is no doubt a staggering statistic.

But as tough as a helmet may be it's of no use if it's not worn, and while there are numerous objections that are raised against wearing a good helmet there is none that has any validity.



Several months ago I acquired a Bell Star to use for road testing chores. Previously I had always worn open front helmets, with visors and without, occasionally with a full shield, and more often with goggles. Aside from the facial protection offered by the Star its cleaner shape seemed to make a good deal of sense when considering the accumulated tons of air pressing against the head during a highway trip of a hundred miles or more. I've always been bothered with neck and shoulder soreness after long rides, and particularly so when I've opted for goggles rather than a face shield.

Suffice it to say that the Star did what I expected and hoped that it might; muscle fatigue has just about been eliminated, and the highway miles pass much more quickly than before.

The Bell Star is really more of an environment than it is a helmet. Not only does it reduce wind fatigue, but it makes otherwise unpleasant riding weather bearable. Face-numbing fall mornings lose their bite and even light rain is no longer an ordeal. Like Wrigley's chewing gum it doubles your pleasure.

The Star's weight takes some adjusting to. It is noticeably heavier than an open front helmet and I found myself acutely aware of its presence for the first few wearings. However, this has since passed. The Star's bulk is comfortably distributed about the head, and there are no definite pressure points.

Like the weight, the full envelope coverage also requires getting used to, and if one be claustrophobic total psychological adjustment might never be achieved. I had some small concern about this at the outset but the concern was only imagined; the Star is so comfortable that lingering anxiety about being entrapped quickly disappears and riding becomes full-time pleasure.

The optional flip-up shield is a must for highway use. In stop and go traffic the shield can be left unsnapped so it is easily flipped up when one is stopped. In fact, up to about 30 mph the shield may be left up without compromising vision. The airstream spills around the helmet and there is apparently an eddy that occurs in front at low speeds. With the visor down and unsnapped turning the head to check traffic results in the visor being popped up and then back down when the head is faced back to the front.

The Star effectively deadens engine sounds and greatly reduces the wind roar common to other helmet types. Traffic noise, too, is substantially reduced, but not so much that one isn't aware of what's happening out there. Peripheral vision is fractionally more limited than in open front helmets but like some of the Star's other characteristics it is something that one simply learns to compensate for.

With regard to the Bell Star's principal task I can say only that I have no empirical data — nor do I have any future plans for collecting any. I'm content to assume the validity of Z90.1 standards and Bell-Toptex's excellent reputation for engineering and building some of the world's very best safety helmets. As a comfortable road riding environment, however, the Star has shown its worth in nearly two thousand miles of pleasant road riding. •

BELL STAR HELMET

By Mike Bishop

PRODUCT EVALUATION

HOW DO YOU KNOW YOU WON'T LIKE IT IF YOU DON'T TRY IT?

TEST: SUZUKI GT750LE MANS

A year ago this month **Modern Cycle** tested the Suzuki 750 triple. For the most part we liked the motorcycle very much. We had just a couple of criticisms. This month we tested the newest 750. We still like it very much—even more because its earlier faults have been corrected and its previously good features are intact in the 1973 version.

The LeMans, as Suzuki has labelled their liquid-cooled maxiroadster, poses some interesting questions about the character of the motorcycle buying public. For instance, we find it curious that the Suzuki 750 hasn't faired better in sales to touring riders. The Suzuki is smoother and even more vibration-free than Honda's super-smooth multis, and it's miles ahead of Kawasaki's three-cylinder jets on the same count.

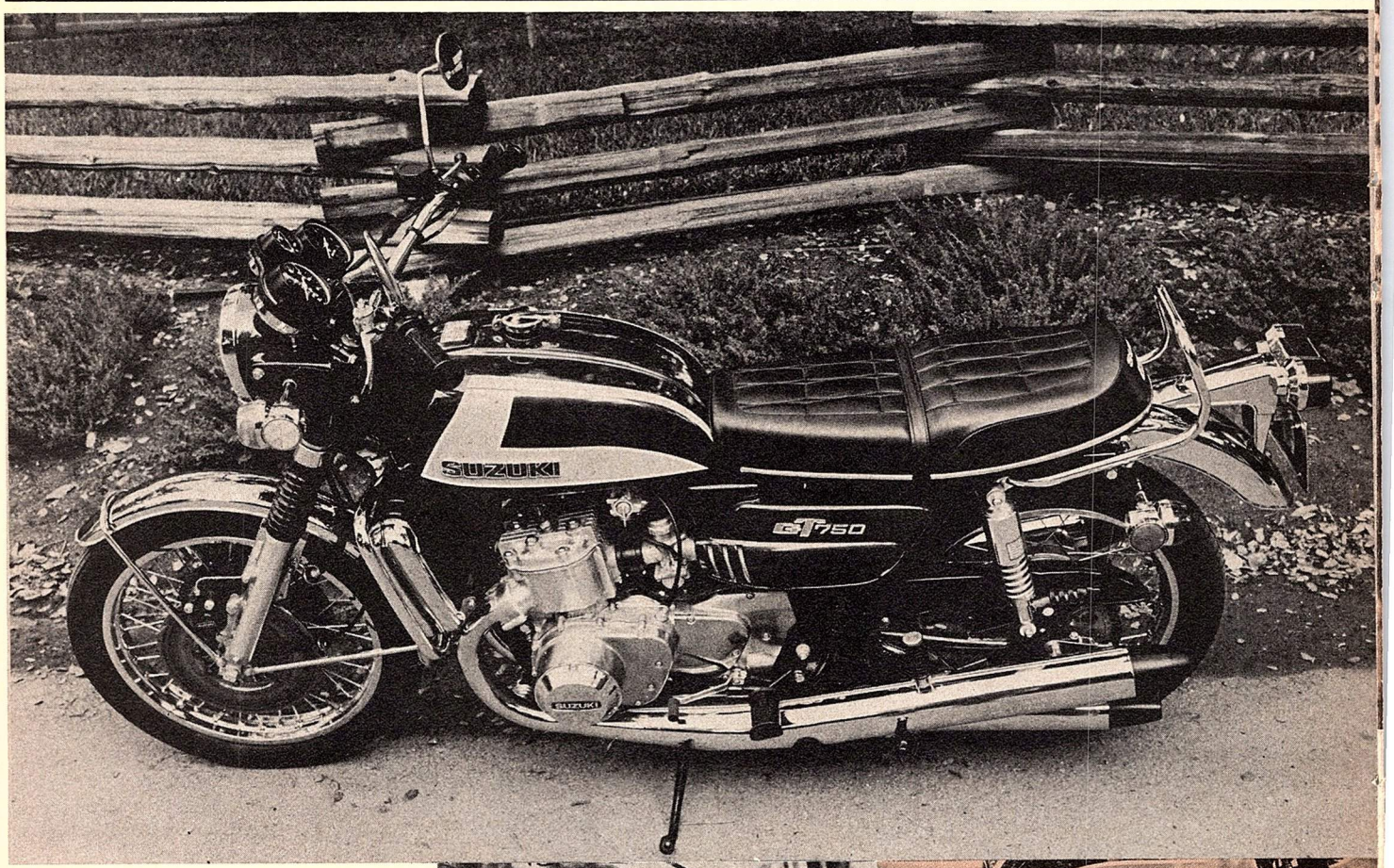
Certainly the LeMans proved itself to the performance fans with its blinding acceleration and speed at Daytona this past year. If anything, the Suzuki was too strong, too fast; its chief problem was that its performance exceeded the capability of existing racing tires. If that's not a spectacular testimony for the go-fast set we're hard pressed to imagine what is.

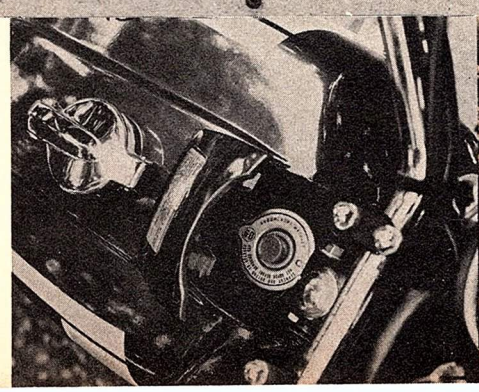
It's conjectural, of course, but we feel that the 750 Suzuki may very well have been hoisted on its own petard. Its design coup, liquid cooling in a reasonably priced production bike, may just be a little more than the market is, or at least was ready for. Perhaps 1973 will see better sales for the 750.

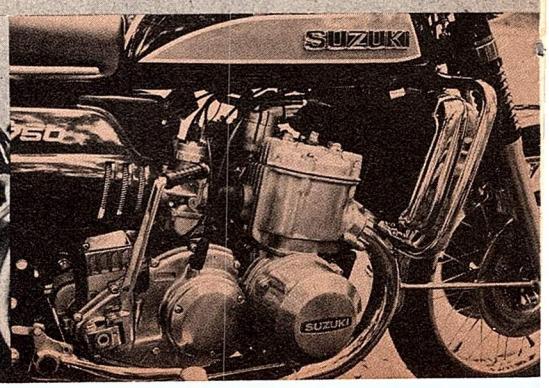
The trappings on a liquid-cooled engine do take a bit of getting used to. We've all become so accustomed to more and larger cooling fins, strange and wonderful finning patterns, blackened fins with shiny, polished edges, that a near-finless engine perhaps does not compute. And then there's the coolant radiator. As nicely placed and scaled to the motorcycle as it is, it adds unfortunate visual bulk that we're not used to.

Still, the anomaly here is not that the Suzuki 750 didn't sell—because it certainly did—but that it didn't sell as well as it should have. The LeMans is a spectacularly good motorcycle. It's quieter than most and smoother than all of its competition. The coolant jacketing and the coolant itself damp much of the mechanical engine operating noises that are common to air-cooled engines. The good neighbor qualities are further enhanced by a very quiet three-into-four exhaust system. It seems reasonable to assume that the number of mufflers was settled on not so much from necessity as for visual and physical symmetry. A bonus to the exhaust system designer accrues here in the form of ample volume with which to accommodate eagerly expanding exhaust gas charges and silencing baffles all at the same time.

Surprisingly, for a two-stroke (we had to constantly remind ourselves that it **was** a two-stroke,) the Suzuki has a very quiet intake tract with no







apparent tricks employed. The engine is a piston-port design, fitted with conventional Mikuni carburetors and a predictable sort of air box/filter system. Even under hard full-throttle acceleration the intake noise is quite moderate, more like a four-stroke multi than a two-stroke.

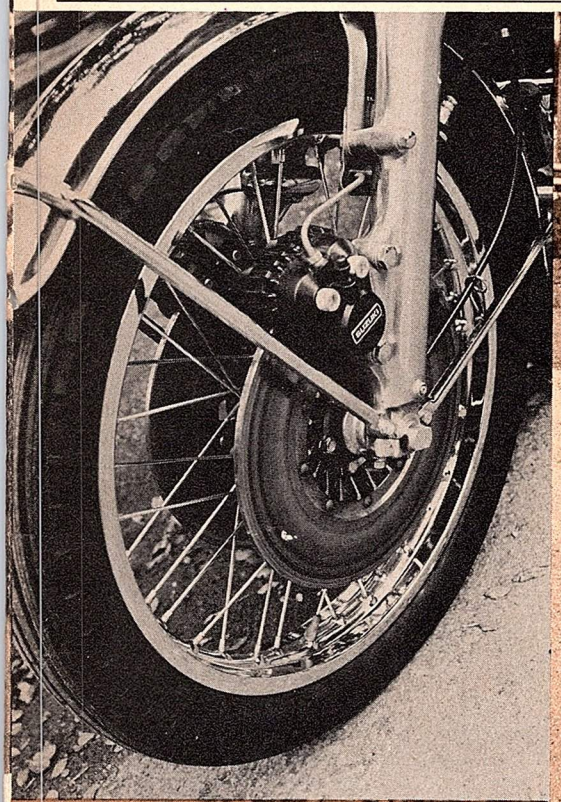
During city and suburban running, up and down through the gear train, the LeMans is more pleasant than most. It's most comfortable in second and third gears at surface street speeds. The 750 is a deceptive piece. Through the courtesy of this displacement the Suzuki enjoys a broad torque register and can be ridden pleasantly with moderate throttle openings.

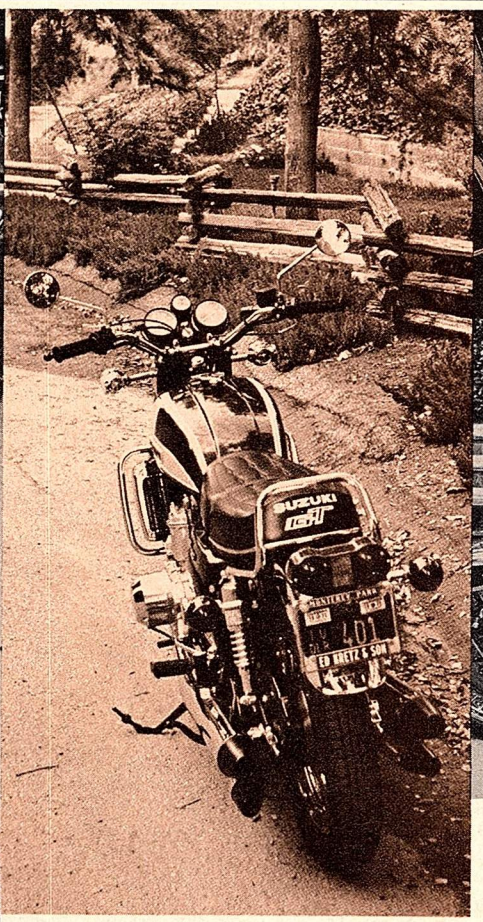
When the wick is turned up the LeMans gains continual strength, up through the mid-range and onto the pipes where it really begins to hustle, changing its conservative wraps for a flying cape. It's tire peeling potential really becomes apparent. The indications of stout torqueiness felt at moderate speeds are suddenly realized as just a hint of what the LeMans is capable of when totally excited. Throughout its operating range the 750 is unbelievably smooth, a veritable turbine—and this is just one of its very strong attributes.

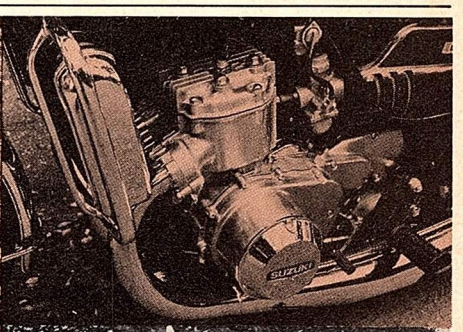
In addition to potentially longer engine life the liquid cooling offers a definite performance advantage. At the lower operating temperature (lower than a comparable air-cooled engine) combustion charges are denser and consequently potentially stronger. This is most beneficial in hot weather when traveling long distances. The LeMans is always strong and fresh feeling. The transfer of the coolant through the system is effected by a pump located beneath the engine and driven by a quill shaft. The pump is aided by thermal siphon effect, in which the hot coolant rises and the colder coolant falls, from the radiator back into the cooling jacket. All in all it's a very efficient system; the engine runs extremely cool.

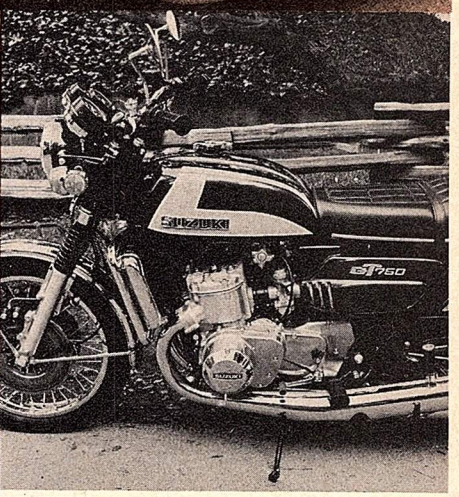
The first of the 750 liquid-cooled 750s had every bit as much muscle as this new model. Absent on the earlier piece was a braking scheme capable of handling this much weight and potential velocity with a comforting margin. But that's all in the past; the LeMans for 1973 is equipped with a dual disc front brake. The calipers float on brackets bolted to the fork legs and are activated by a single master cylinder. Control sensitivity is excellent and the stopping power is nothing short of incredible. First application after the motorcycle has been sitting for a long time produces a loud, steady squeal but subsequent use is quiet. The rear unit is a conventional single leading shoe drum type that also responds well without threatened lockup. In combination, both brake units are well suited to the 750 and offer the peace of mind that was lacking in the '72s.

Somewhat surprisingly the LeMans is a good handler. We say somewhat surprisingly because the

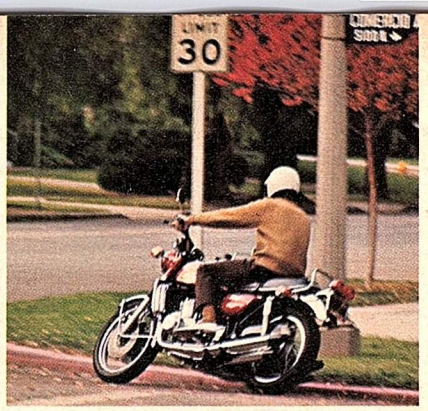


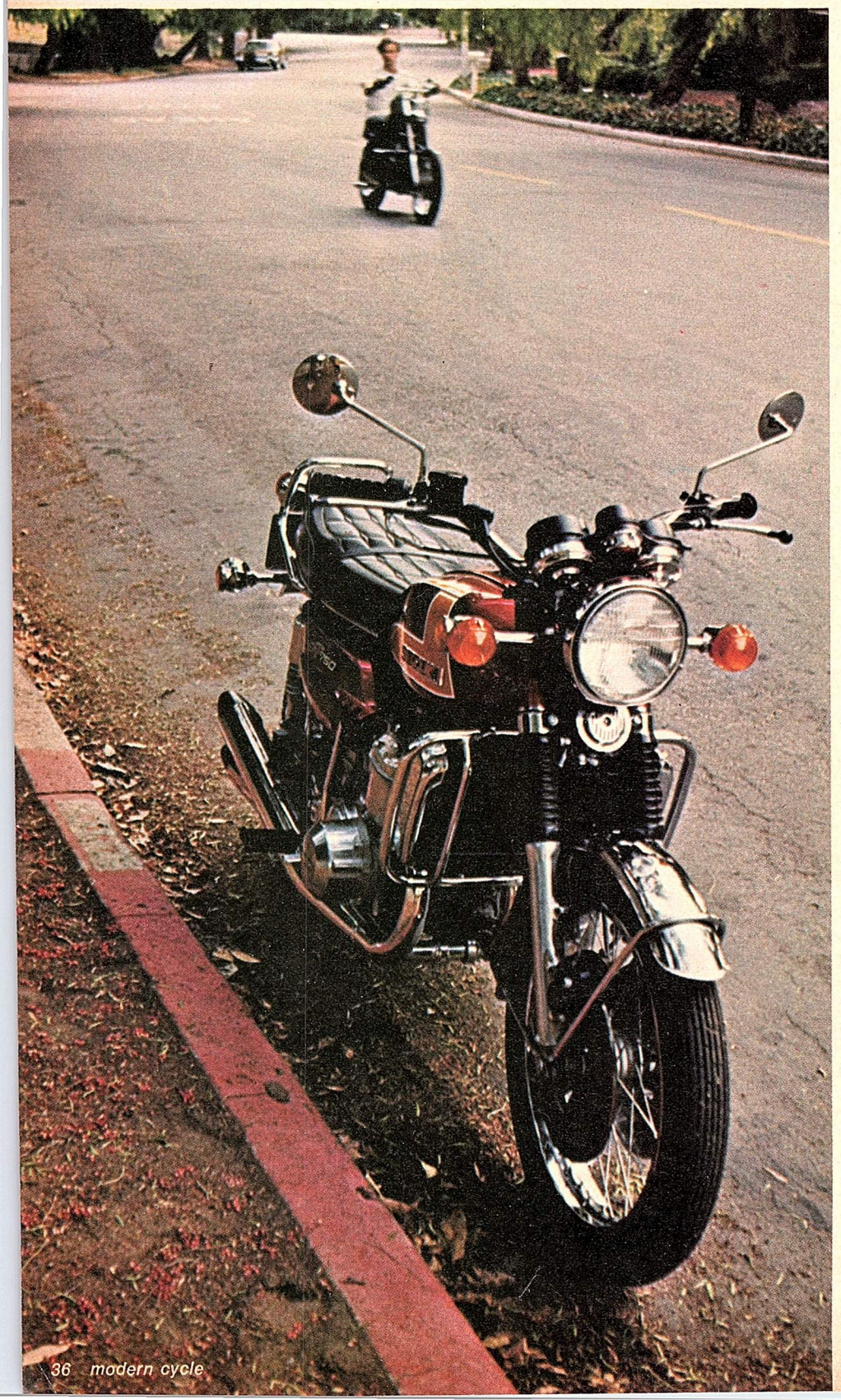






TEST: SUZUKI 750





motorcycle is one of the heavier superbikes and would appear to have a great deal of top hamper because of its coolant jacketing, radiator and very large fuel tank. In reality, however, the LeMans exhibits very little top hamper. It's uncommonly agile and can be flipped from side to side as effortlessly and with as much assurance as some of the better handling middle weights. At low speed the 750 has a slight but understandable heavy feel, but not so much that city riding becomes a chore. At highway and freeway cruising speeds the LeMans is rock steady with sufficient available torque to carry it up long grades in top gear.

As with the earlier 750 the new LeMans evidences a shuddering change from first to second gear. Hard acceleration from a standstill with a brisk change into second feels as though it places undue stress on the drive train. We discovered that it is best to get it moving in low gear and shift gingerly into second before applying great gobs of power. Changes into the upper three gears show none of the characteristics of the first-to-second change; they're effortless and always smooth. The transmission has but one neutral and it is easily found with a light tap down from second. When the motorcycle was first received for test it had very few miles on it. The transmission felt just a shade stiff and it was difficult to engage low gear. Several firm stomps were required to get the green light to go out, and while the condition has improved with accumulating mileage low gear engagement was never wholly satisfactory. We suspect that this problem is confined to this particular motorcycle and may simply be the result of an extreme in manufacturing tolerance. Last year's 750 was not similarly afflicted and there have been no design changes to account for the balkiness in this test model.

The ever-improving state of the motorcycle manufacturers art continues to provide super-sophisticated bits and pieces and systems to marvel at. Engine and chassis ideas aside the LeMans sparkles with innovative engineering and handsome details. Typical of this sort of thing is the packaging of the electrical system support components.

The voltage regulator, directional flasher, fuse block and wiring loom plug-ins are all neatly arrayed and housed beneath the right side cover. Electrical system testing and troubleshooting just has to be a breeze with an arrangement like this.

The instrument cluster has also received some careful thought. The handsome "dashboard" houses the coolant temperature gauge in addition to the tachometer and speedometer. Indicator lights are large and well

MAKE SUZUKI
MODEL GT 750
PRICE AS TESTED $1,665.00
MAXIMUM SPEED AS GEARED 110 mph
WEIGHT 525 lbs. WET

Distributor ..... SUZUKI MOTOR CORPORATION 13767 Freeway Drive, Santa Fe Springs, Calif. 90670

ENGINE

Engine Type	3-CYLINDER, 2-STROKE
Bore	70mm
Stroke	64mm
Displacement	738cc
Compression Ratio	6.7:1
B.H.P. at R.P.M.	67 AT 6,500
Carburetor	32mm MIKUNI
Ignition	BATTERY AND COIL
Starting System	ELECTRIC AND KICK
Lubricating System	OIL INJECTION

FUEL AND OIL

Oil Capacity	3.8 PINTS
Oil System	C.C.I.
Fuel Capacity	4.5 GALLONS
Fuel Recommended	PREMIUM
Approximate mpg	45

FILTERING SYSTEMS

Air	MICRONITE PAPER
Oil	SCREEN
Fuel	SCREEN

FRAME

Frame Type	DUPLEX CRADLE
Weight Distribution	FRONT: 48%, REAR: 52%
Wheelbase	58 INCHES
Ground Clearance	5.2 INCHES
Peg Height	11 INCHES
Seat Height	32 INCHES

SUSPENSION-TYPE

Front	TELESCOPIC FORK
Rear	SWING ARM

SUSPENSION-TRAVEL

Front	6 INCHES
Rear	3 INCHES

DRIVE TRAIN

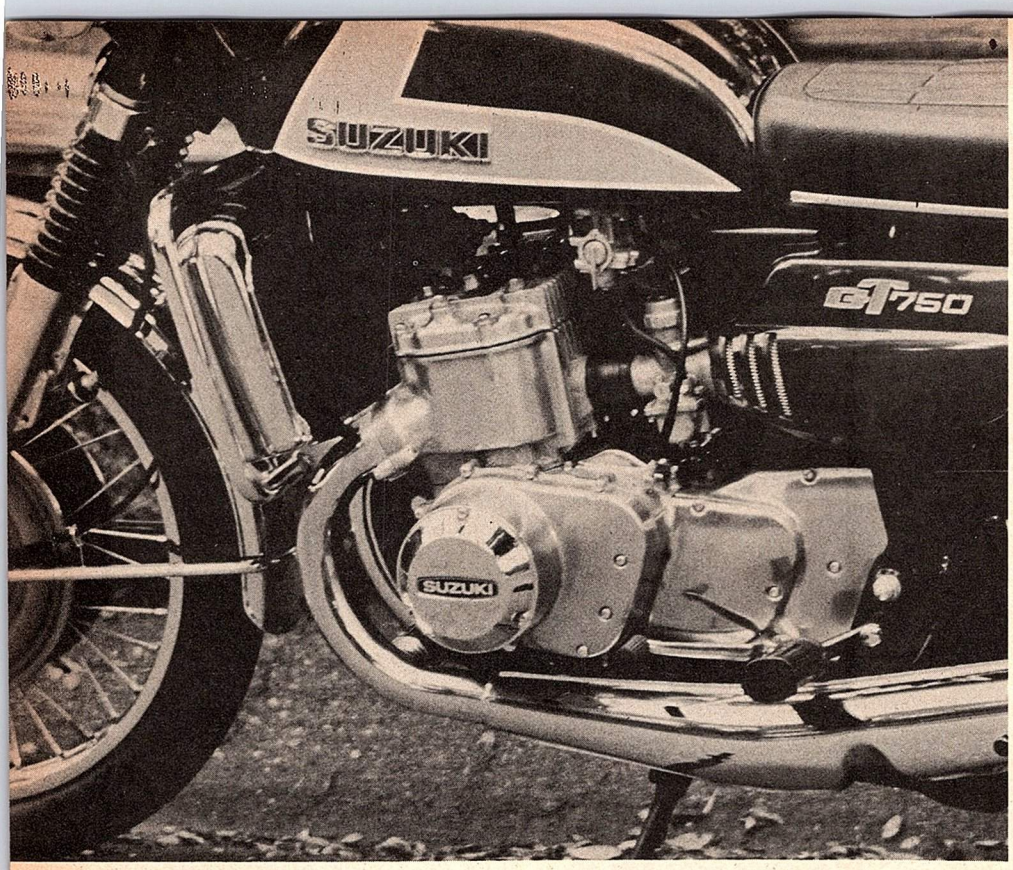
Clutch Type	MULTI-DISC, WET
Primary Drive	GEAR
Countershaft Sprocket	17 TEETH
Final Sprocket	38 TEETH
Final Drive	SINGLE ROW CHAIN
Gear Ratios	Overall
1st	14.92:1
2nd	9.11:1
3rd	7.15:1
4th	5.90:1
5th	4.84:1

TIRES AND WHEELS

Front	3.25x19 LOW PROFILE
Rear	4.00x18 LOW PROFILE

IMPRESSIONS

IMPRESSIONS	Poor	Good	Excellent
Throttle Response			●
Acceleration			●
Power Band			●
Starting			●
Engine Noise			●
Muffling			●
Vibration			●
Handling		●	
Choice of Tires			●
Suspension			●
Rider Comfort			●
Transmission			●
Instrumentation			●
Lighting			●
Toolkit		●	
Paint and Chrome		●	
Styling		●	
Mileage		●	
Braking			●



defined. The coolant temperature gauge, incidentally, never registered more than about one-half its range all during the time we rode the LeMans. A sensor connected to the gauge circuit is calibrated to switch on the radiator fan should the coolant temperature exceed 221°F. It never did however, and we were deprived of seeing the unit work.

As with all their models, Suzuki has done a nice job of the numerous control buttons and switches. They are well positioned and require no hunting. All the controls work consistently and add much to the pleasure of operating the machine.

The LeMans' riding comfort is comprised slightly by the width of the fuel tank and the front of the seat. Typical of transverse multis, the LeMans is wide both at the pegs and the upper end of the engine. As a result the overall motorcycle package is wide requiring both rider and passenger to stretch their muscles along the insides of their thighs. An hour or so in the saddle is often attended by some soreness in the pelvic area, but it became less pronounced as the days rolled by and the miles were accumulated.

For some strange reason the LeMans' headlight is not quite up to the standards we've come to expect. It's bright enough, but it punches a wide rather than a deep hole into the darkness. While it is possible to lengthen its throw through adjustment we would hesitate to recommend it; because that may very well invite an equipment violation.

As Suzuki enters their second year of production of the LeMans we can only wonder how it will fair in sales. Certainly they must be optimistic. They've had time to expose it to the touring market and word of mouth from those who own the model should help put more units on the road. Too, we've all had time to get used to the big, smooth, liquid-cooled pavement scorcher. In combination with the performance of the road racing versions that have put something new in the game it would seem that the LeMans will do very well. If it were economically possible for dealers to make demonstrators available to potential customers the GT 750 would catch on in a big way; it's a motorcycle that is best appreciated through several hours in the saddle.

To know it is to like it—very much. •

TEST: SUZUKI 750

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49,000 MILES ON A TWO-STROKE AROUND THE WORLD ON A DOLLAR A DAY?

Late in 1971 Takashi Kasori had a wanderlust, a new motorcycle and $1,107. He overcame staggering odds and endured monumental discomforts to parlay the dream, the bike and the extremely limited funds into a 13-month, two-wheeled solo adventure around the world. He returned to his Tokyo home in September, 1972 after a brief rest stop in Los Angeles.

Kasori, 25, battled tsetse flies and fever in Africa, pushed his bike across the Sudan desert in 120-degree heat, crashed (more than once) in Afghanistan, and rode from Alaska to Key West through all fifty of the United States (he paused in Hawaii on the way home).

In some primitive areas of Africa his life literally would depend upon his bike's reliability. Knowing this, Kasori selected a new Suzuki TS250 as his mount. Kasori chose this bike for its dependability and its ease of maintenance when minor repairs are required. He also likes the mechanical simplicity of a two-stroke engine. This wisdom of his choice is born out by the fact that his only mechanical problems (except for flat tires) were occasional fouled spark plus, due largely to his using ordinary 30-weight oil rather than a factory blended two-stroke oil.

Kasori deliberately sought out the most difficult places in the world to ride. He spent 38 days crossing the Sudan desert, where the sand was so soft that he was forced to push much of the time and could only average about 25 miles a day. Making this portion of the trip more grueling was the fact that day time temperatures were always above 120 degrees.

In central Africa the Japanese rider had some of his most fearful adventures. In this area of Africa there were no roads, just trails a couple of meters wide at the most, and lots of wild game. At one point three elephants charged out of the tall grass alongside the trail and nearly trampled the rider. Fortunately, they veered off in another direction.

It was also in central Africa that Kasori was attacked by tsetse flies. Ill with a high fever the young Japanese rider was forced to rest for several days in a small village. Many of the villagers felt that Kasori would die of the sleeping sickness brought on by the tsetse flies.

In the south of Algeria he drank camel's milk as a steady diet, broken with mutton a couple of times a week. "That's all the shepherds lived on," he said, "and they are very strong. They walk in the burning sand of the Sahara without shoes. I tried it and could stand the pain for only about 10 seconds."

Perhaps the most incredible part of the journey was Kasori's food budget—only 20 to 30 cents a day, even in the United States. How did he manage? "In Africa the villagers often shared their food with me, even though they were extremely poor. In the United States I bought bread, onions and carrots. I made onion sandwiches with raw carrots for dessert."

Out of Africa and into Europe, Kasori stopped in England for two months, working as a motorcycle mechanic to earn passage to Canada. Then it was across Canada, down through the western United States, up to Alaska (where continuous rains provided miserable camping and riding conditions) and then south for a tour of all 48 states. Kasori wanted to journey into the Northwest Territory and live with Eskimos but ran short of money.

The total trip covered 49,000 bike miles, of which 32,000 miles were on the original motorcycle. At U.S. Suzuki in California he was loaned another motorcycle for his 17,000-mile United States and Alaska tour. (His original TS-250, although somewhat travel weary, was and is mechanically sound, but Suzuki borrowed it for display purposes.)

Why did he do it? Smiling Kasori said, "It was the call of the out-of-doors—the chance to travel, north, south, east and west."

Now he plans to work in Tokyo, save his money and next year take off for Australia with a side trip through Africa. How will he travel? On a motorcycle, of course! ●

Takashi Kasori, 25, and his travel-stained Suzuki TS250 pause in Los Angeles near the conclusion of his historic round-the-world solo ride. The total ride covered more than 49,000 miles, much of it in the world's most primitive and desolate areas.

Kasori's motorcycle carried 66 pounds of camping gear and supplies plus at least 5 gallons of extra fuel. The only problems encountered on the journey were flat tires and fouled spark plugs.

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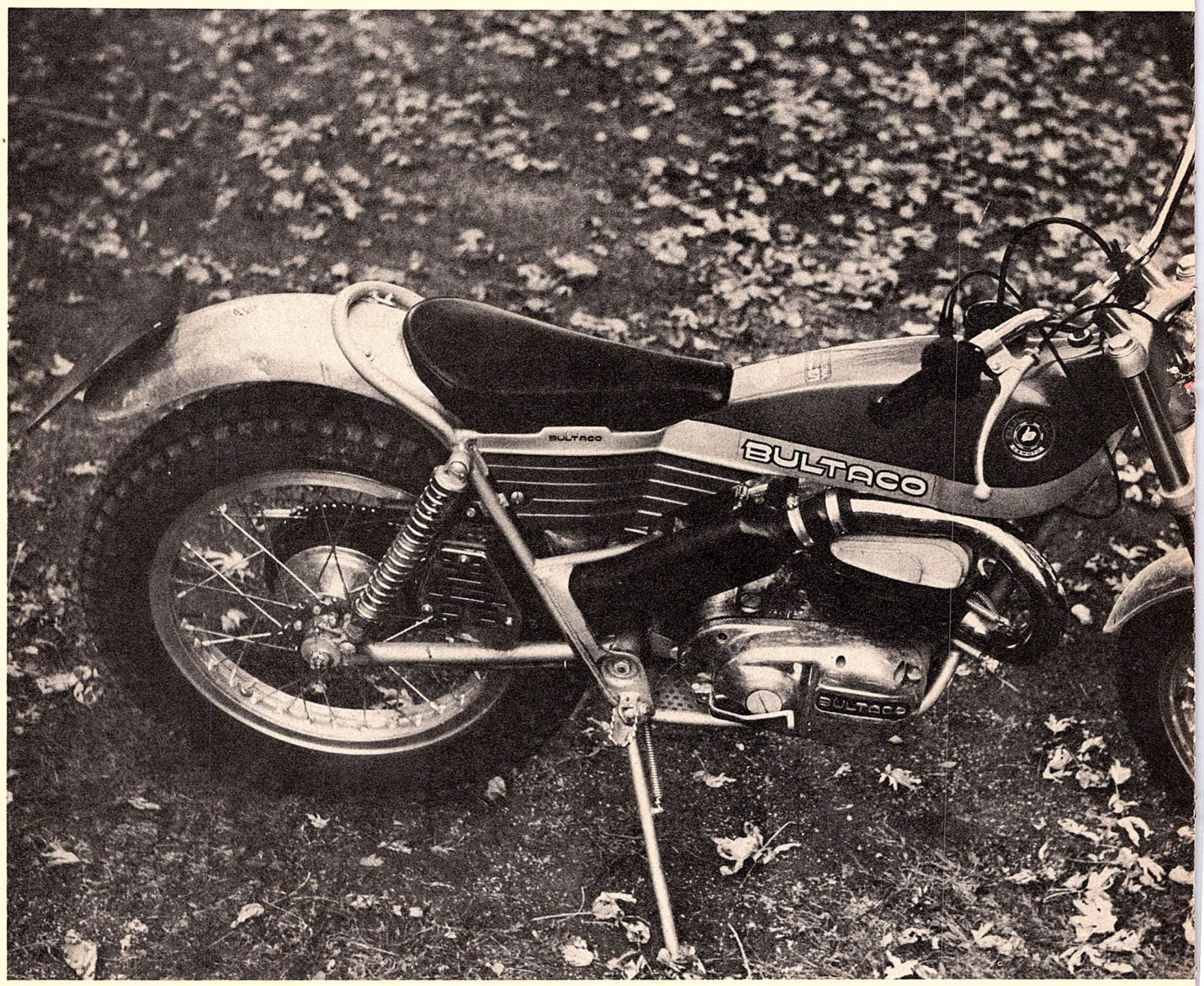
The Trend is from 250s to 125s—Bultaco Opts for the Ot

The legend of the Sherpa T had its beginning in 1965. Motorcycling, because of its great scope is rapidly becoming a multi-faceted sport. The spectrum stretches from high-powered road racers shelled in sleek fairings to the spindly, cobby look of the English trials tool.

England is the birthplace of feet-up trials riding and for many years only English motorcycles were built to perform in this most difficult competition. Large displacement single-cylinder motorcycles were thought best because with their long stroke and well spaced "thump" of power smoothed out by oversize flywheels they produced the ideal kind of impulses to the rear tire that make a motorcycle tractable.

We have all seen the classic picture of a man transversing a log with his trialer, standing on the pegs, the front wheel high in the air, and the bike sliding over the obstacle on its skid plate. Or, hung out on the bike with his body to the inside of the turn, machine vertical, mouth open, and the forks clear to the stops. These are only a glimpse of the total English trials picture.

Tight turns and great balance are necessary. The design of the machine enhances its ability to turn. Bultaco places its Sherpa axle in front of the fork slider to reduce trail which gives the bike precise steering at low speed. This arrangement is not conducive to high-speed stability,



TEST: BULTACO SHER

her Direction—a 350

but then trials riding is not a high-speed affair.

The Sherpa T's chassis itself is the result of several years of constant development to exploit the potential of a two-cycle 250cc engine. In 1966 the first of the Sherpa Ts competed in the Scottish Six Days Trial. The Scottish is to trials riding what Daytona is to the AMA racer or the Isle of Man TT to the International road racer. It's the premier event of the year—the one all the aces want to win.

RPA T350

Irishman Sammy Miller won the Scottish in '66 on a Bultaco Sherpa T, the first time a non-British motorcycle did the trick. Sammy did it again in '67, '68 and '70. He also won the British and European Trials Championships in '68 and '70 on the made-in-Spain two-strokes. During that short time, from '68 to '70, the little two-stroke had completely outclassed the time-proven thumpers and a whole new industry was sparked to life in Spain with Ossa and Montesa also jumping into the trials fray.

Some of Britain's mini-manufacturers have countered with a 125cc Mineralli-powered Cotton, 175cc Puch-powered Greeves, and a few other highbreds that might make a ripple on the trials scene. But it's evident that the four-stroke is gone forever.

There can only be one explanation for this, and that is the new generation trials machine does a better job. If it didn't it wouldn't be there. Basically, the two-stroke bikes are lighter. The short two-stroke engines, devoid of the valve gear found on the thumpers, reduces top heaviness, or, in trials parlance, top hamper. The

entire gearbox and drive train are smaller and weigh less because they are not required to transmit a single, large thump, but rather two softer impulses.

The two-stroke engine, especially the ultra-short stroke type made popular by the Spanish, was long thought to produce horsepower only at the upper mechanical and rpm limits. But a different trend in thinking has proven the theories wrong. The modern two-stroke trials engine has evolved from 250cc down to tractable 125s and up to 325cc's labeled by Bultaco a 350.

The basic Bultaco 250cc engine has a bore of 72mm and a stroke of 60mm. Whether the machine is set up as a high-torque 20 horsepower Sherpa Trials or a 35 horsepower Astro racer, the bore and stroke and even cases are the same.

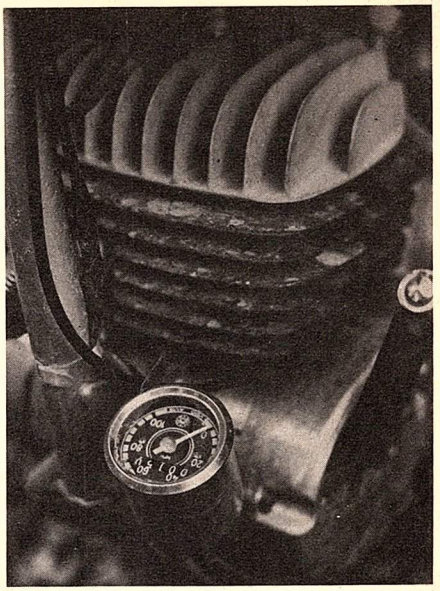
So, when Bulto decided to build a 350 it was no surprise to us when we found the stroke remained 60mm and the bore was pushed out to 83.2-mm, with enough room to allow four oversize borings. (This piston area/stroke relationship closely resembles that of a vibrator.) This configuration was first seen on the 350 Pursangs and used with success on the motocross tracks. It is just as successful in the trials world but only after a complete internal re-engineering to make it go thump-thump. With the 350 Sherpa T Bultaco have succeeded in recapturing the thumping power that was lost when the four-strokes disappeared. Still, they have maintained the modern evolution of trials bikes created by the first Sherpa T.

There is one thing to remember about Bultaco, and that is when the small plant in Barcelona tools up for a new model to be produced it has all the recent improvements. While they may actually produce ten runs of Sherpa Ts during the year, each succeeding batch will incorporate improvements over the previous group. Larger companies aren't as flexible and therefore must make all their improvements at the beginning of each year. If a model is a bit of a dog, they're stuck with it as long as they have that model to produce. Bultaco's improvements are many times insignificant but when added together, stagger the mind.

The 350 Sherpa T has a Pursang cylinder casting with a cast iron sleeve of its own dimensions pressed in. Port timing, of course, is very mild and, because of the barrel's large circumference, transfer ports have been added to aid scavenging.

In going to the 350 engine Bultaco has installed a 25mm diameter Spanish Amal which affords better throttle control of the engine. (The 250 uses a 27mm Amal.) Air is still drawn through a flat oil-wetted foam filter found directly under the seat.

With the proper spark plug cap (Lodge), I have ridden these machines with the engines completely submerged in water for short distances. The air inlet is just a few inches above the engine, and to compensate for greater loads produced by the lar-

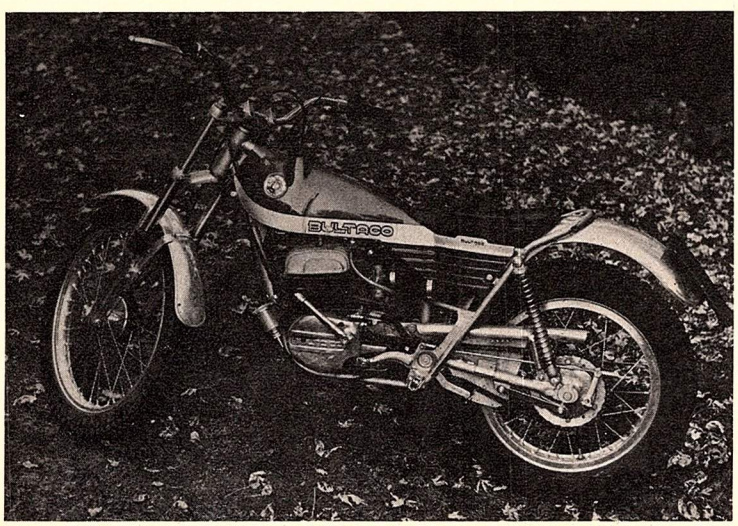


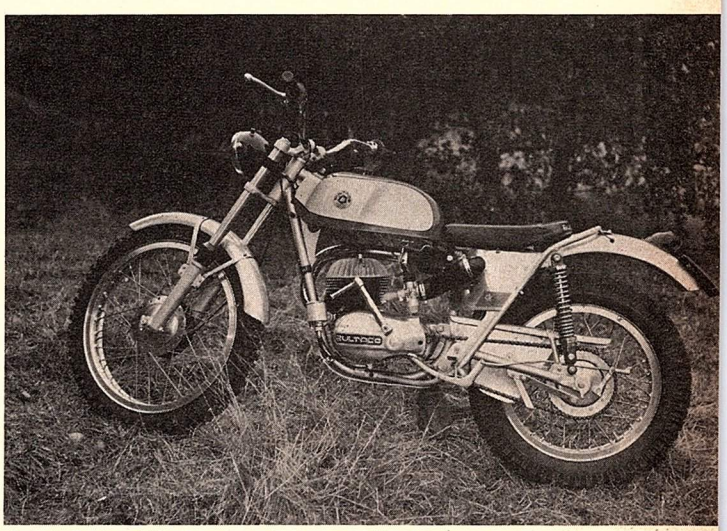
A silly place for a speedometer, but that's where they put it.

ger bore, the big end bearing diameter has been increased. Double seals at both ends of the crankshaft are now standard on all Bultacos. A several-pound weight has been added to the drive side of the crank, and in combination with the flywheel on the opposite side helps create a very soft 325cc engine.

A single row primary chain, fitted with a chain tensioner, transmits power to the new alloy clutch basket. From there, a larger mainshaft routes it into the transmission.

Sherpa T gearboxes are unique in their design and good only for trials riding. Second gear is so close to first in ratio that it is difficult to determine which gear you're in. Third is very close to second while fifth is spaced way out so the motorcycle can be run down the road at a reasonable speed. Fourth is intermediate between third and fifth and is only used as a step to get into fifth. You can actually run about 65 miles per hour in top gear and sometimes





The very latest Sherpa T on the left, and one of the first visible in the U.S. These two photos testify to the progress made in English trials machinery.

trials riders do when motoring from observed sections to the next during an event.

When getting right down to work, first, second, and third are the gears used with second more put upon than the others. A combination of balance, traction, and momentum are required to clean a given trials section. Having the proper gear becomes all-important, and a smooth transition from off throttle to on throttle is also required to maintain traction which is, ultimately, control. Many sections are shot in third gear with the bike getting right down to walking speeds and power impulses well spaced. The Sherpa 350 does just this, and does it well. Although the 250 has enough torque to sometimes do it the 125s cannot. This, more than anything is the reason for the 350 T.

The rear chain is still of ½-inch pitch because it weighs less than a ⅝-inch chain and is a little more flexible. A trailing chain tensioner is used to eliminate chain snatch under the aforementioned conditions. Another new device is the chain oiler built into the swing arm. We found, under severe mud conditions, that the vent hole in the filler plug will clog and restrict the flow from the oiler. A minor thing.

The conical rear wheel hub is unchanged, as are the Betor shocks, built to Bultaco specifications, that support the rear end of the machine. Up front things are quite different.

On top of the forks are new filler caps that have flapper valves to relieve air pressure built up within the tubes. This replaces the spring and ball affair that often did not work, and when it did it would announce the fact by blowing oil all over the rider and machine.

The bottom triple clamp is now an alloy forging that has taken the shape of a "U" that grips the stanchion a few inches closer to the axle. This reduces fork twist, and when teamed up with the new one-piece fender mount it offers more rigidity.

The bottoms of the sliders have a whole new look, another Bultaco innovation. The front axle is recessed into the sliders leaving nothing sticking out. The axle is slotted at one end for a screwdriver and the nut must be removed with a socket. But that half-inch or so not protruding is very important to the Expert trials rider. I myself have caught an axle nut on a stump and dropped the bike; it is one of those insignificant yet important improvements we've been talking about.

All the new Sherpa Ts have absolutely the lightest production front wheel on the market today. An Akront "Touring" rim is used. It doesn't have mud-catching ridges and weighs a good pound less than the others. Small diameter stainless steel spokes fastened by alloy nipples at the rim thread into a forged alloy conical front hub that is nearly egg shell thin. The alloy backing plate is held by an aluminum stay that also serves to hold the outer brake cable on a classic "pull from the front" arrangement.

The Bultaco does not come with trials tires. It should but the simple fact is good trials tires are not made in Spain, yet. Instead it is fitted with knobbies, a sacrilege. Our test bike had the best—two-ply Dunlop Trials Universals. Under 90 percent of the conditions encountered during trials competition the trials pattern simply works better, but only because of the minimum air pressure recommended and the design of the chassis.

We've talked about the English trials bike being the most sophisticated of single-purpose machinery, and it is. For competition use recommended tire pressures are about 4 and 6 psi. Depending on ones weight and personal likes, the bikes are sensitive right down to their tire pressures. Security lugs are fitted, two on the rear and one in front, to keep the tires from creeping on the rims.

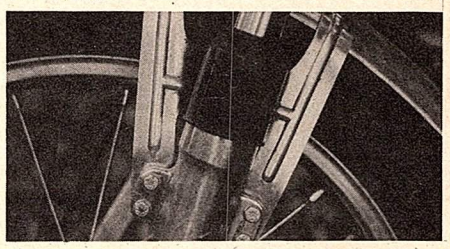
Although hardly detectable by the eye the 350 Sherpa has its engine placed ½-inch farther back than the 250. It's incredible to believe that Bultaco would go to such lengths, but they do. The 350 produces more torque than the 250 and therefore will break traction easier. Moving the engine closer to the rear wheel is Bultaco's way of controlling this problem. Other than that the two machines are the same except for their engines.

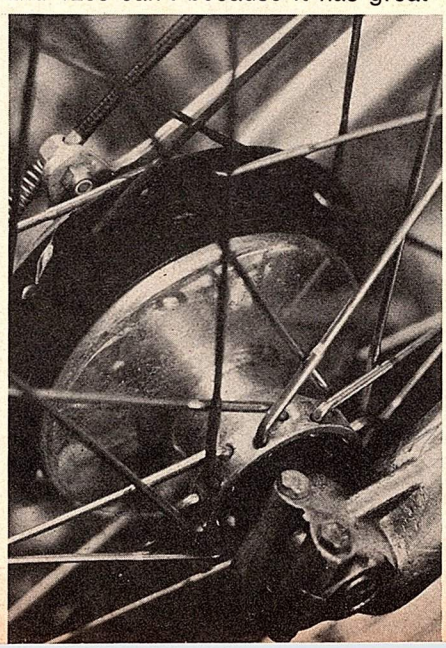
A trials bike will go places impossible for normal off-road motorcycles. The 350 Sherpa T goes places 250s and 125s can't because it has greater torque to get it there. Trialers are all stand-up machines because this attitude affords better control through rider weight transfer than a sitting position.

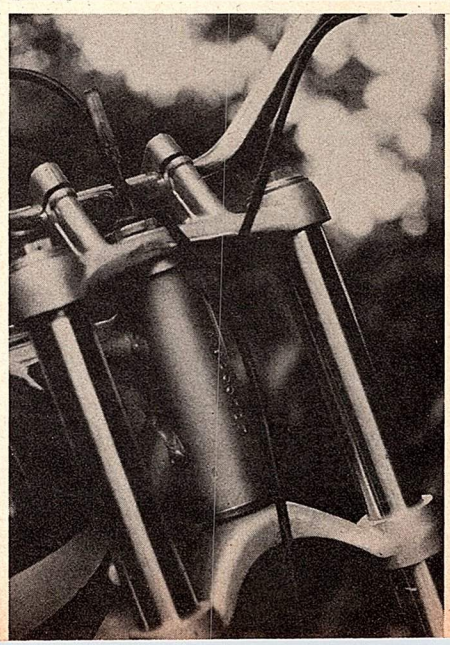
The entire machine is narrow. It's possible to do things with a trialer that one would never try with an ordinary motorcycle. And while trying and failing is part of the game, flinging the bike into a rock pile is common practice. The fragile-looking machine is surprisingly "bashproof." They are continually dropped and pounded yet always seem to come back for more. The first item to go is the rubber flap on the rear fender when the motorcycle is ground looped; then the fender gets its prang.

This all leads to the one common desire to learn to master a trials bike. Nobody has; only a few people have come close. The English trials bike is the most frustrating motorcycle you'll ever try to ride, human emotions being what they are. Yet the unobtrusive putt-putt sound one makes and its positive traction and lack of trench digging makes it a friendly machine from the outset. You can set up a course in your small backyard, ride all day to the annoyance of nobody, yet never take it out of second gear.

The challenge of English trials riding is the natural stepping stone for all motorcycle competitions. Bultaco's 350 Sherpa T is the latest weapon for this type of riding and can't possibly be overlooked. The better the equipment the easier it is to learn, and the Bul is one of the best, if not **the** best. ●







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ENGINE

Engine Type	SINGLE CYLINDER, 2-STROKE
Bore	83.2mm
Stroke	60mm
Displacement	326cc
Compression Ratio	9:1
B.H.P. at R.P.M.	21 AT 5,000
Carburetor	25mm, SPANISH AMAL
Ignition	MAGNETO (POINTED)
Starting System	FOLDING KICK
Lubricating System	OIL MIST

FUEL AND OIL

Oil Capacity	IN FUEL
Oil Recommended	BARDAHL VBA 50/W
Fuel Capacity	1.3 GALLONS
Fuel Recommended	PREMIUM
Approximate mpg	50

FILTERING SYSTEMS

Air	OIL WETTED FOAM
Oil	SCREEN
Fuel	SCREEN

FRAME

Frame Type	SINGLE LOOP
Weight Distribution	FRONT: 44%, REAR: 56%
Wheelbase	52.5 INCHES
Ground Clearance	10.6 INCHES
Peg Height	13.8 INCHES
Seat Height	29.5 INCHES

SUSPENSION-TYPE

Front	TELESCOPIC FORK
Rear	SWING ARM

SUSPENSION-TRAVEL

Front	6.9 INCHES
Rear	3.9 INCHES

DRIVE TRAIN

Clutch Type	ALL STEEL, MULTI-DISC
Primary Drive	SINGLE ROW CHAIN
Countershaft Sprocket	12 TEETH
Final Sprocket	52 TEETH
Final Drive	SINGLE ROW CHAIN
Gear Ratios	Overall
1st	38.1:1
2nd	29.3:1
3rd	22.5:1
4th	13.8:1
5th	9.5:1

TIRES AND WHEELS

Front	3.00x21 KNOBBY
Rear	4.00x18 KNOBBY

IMPRESSIONS

	Poor	Good	Excellent
Throttle Response			●
Acceleration		●	
Power Band			●
Starting			●
Engine Noise		●	
Muffling			●
Vibration		●	
Handling			●
Choice of Tires	●		
Suspension			●
Rider Comfort		●	
Transmission			●
Instrumentation	N.A.		
Lighting	N.A.		
Toolkit		●	
Paint and Chrome			●
Styling			●
Mileage			●
Braking		●	

HANG

Motocross, at its worst, is exciting. At its best it may well be the ultimate contest of skill and bravery. The Hang Ten United States Grand Prix was a motocross at its best. But there's more to the story than a race report.

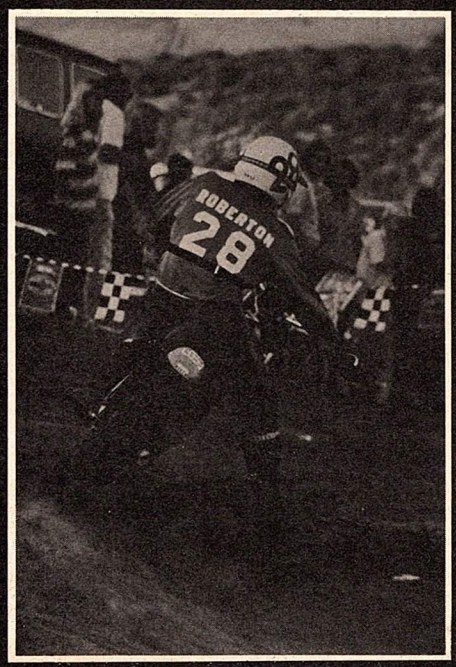
It seems that the United States is forever having to prove itself. Perhaps this is part of being number one in most things. In areas where we are not number one, or have little history, we're having to work extra hard to exhibit our worth. Specifically I'm speaking of world-caliber competition —road racing, Six Days, and motocross. To be sure, we are coming to the game after it has been in progress for some time. But we're playing it as hard and as well as the veterans. The U.S. is destined for its first road racing GP, if not next year certainly very soon. The Six Days with an American venue is a certainty, barring some colossal screw-up. And it would appear that a U.S. Grand Prix motocross will be entered in the International calendar for 1973 if the FIM scrutineers are as pleased with the running of the Hang Ten U.S. GP as they should have been.

There's strong opinion that the Hang Ten should have been part of the GP calendar this year, held during the regular season of course. FIM rules state that a country must host three sanctioned International motocrosses before it can be considered for a GP venue. The requirement had been met before the Hang Ten, with last year's U.S. GP receiving a formal look-see by the FIM. The general opinion was that we were ready. Apparently someone felt we were not.

WE'RE READY FOR THE CALENDAR

The force behind the plotting and execution of the Hang Ten is the ever-growing Trippes-Cox promotional machine. A more skilled and thoughtful group of organizers could not be hoped for. Attention to detail is most assuredly part of their credo, and everything they touch turns to gold, both for T-C Associates and for the sport. The sponsor for this first U.S. GP, Hang Ten Sportswear, was obviously impressed with the T-C machine; they signed a five-year contract to sponsor successive GPs before the starting barrier dropped for the first time in this first-ever event.

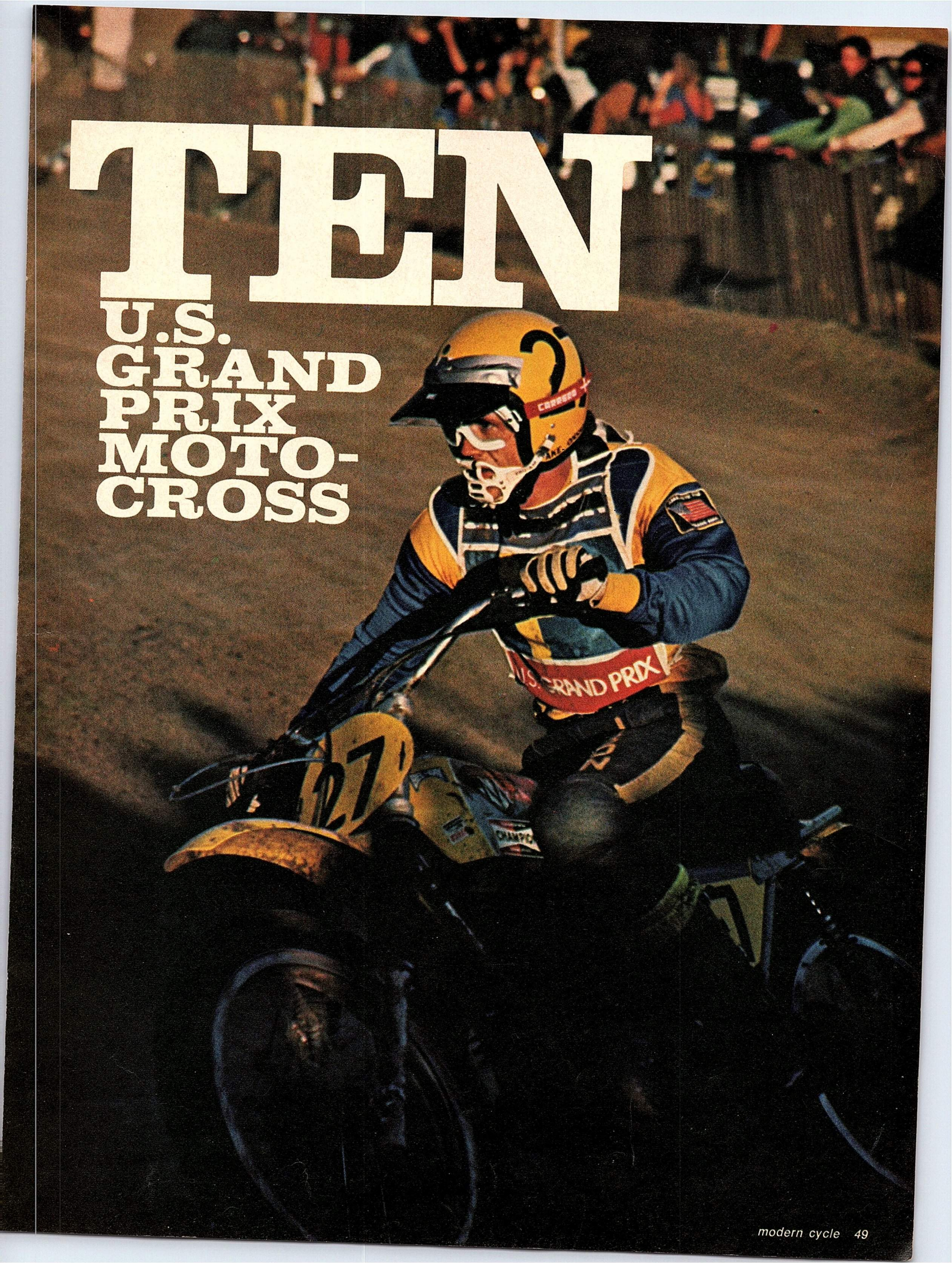
The Hang Ten is part of the Trans-AMA motocross series. As an International motocross it was all that could be hoped for. The challenging Carlsbad, California course was well prepared, if imperfectly fenced. Earlier seasonal rains went a long way to keep the dust in control. It's a shame that something similar could not have been done for the spectators. In the main the 24,000-plus fans conducted themselves with discretion, exercising a good deal of common sense with regard to their safety and the safety of the participants.



At times, however, portions of the course looked like the streets of Pamplona during the running of the bulls with mindless young turks vaulting the chain-link fences to dash across the track, not between rounds but between bikes! Only God knows why some people are possessed of such stupidity. Rather unbelievably there were no casualties. Several of the European riders expressed incredulity that people so interested in the sport could be so ignorant of the consequences of being struck by more than 200 pounds of hurtling alloys.

The morning practice session alone was worth the price of admission. Americans and Europeans alike spent the hour logging lap after lap, loosening up themselves and their machines, looking for and verifying the best lines, checking the surface, memorizing the bumps, testing the berms, and testing one another.

The program commenced with a pair of qualifying heats for the supporting race. It was heartening to see the riding and machine preparation skills displayed by so many young American aspirants to International class motocross. A technicality added drama to the supporting race when a determination was made to bar young Yamaha ace Marty Tripes from the International class because of his age. Sixteen-year-old Tripes, who bested a star-studded field at the special motocross in Los Angeles Memorial Coliseum this past summer, had most of the crowd in his corner, and particularly so the younger spectators. Tripes very easily outclassed the field, pulling away rapidly lap by lap with a win ensured when fate laid a hand to his motorcycle and put him out of the contest. Marty's disappointment was perhaps no greater than that of a couple of 14-year-olds standing near me who watched stunned, choking back tears as he pushed his Yamaha into the infield and laid it on its side.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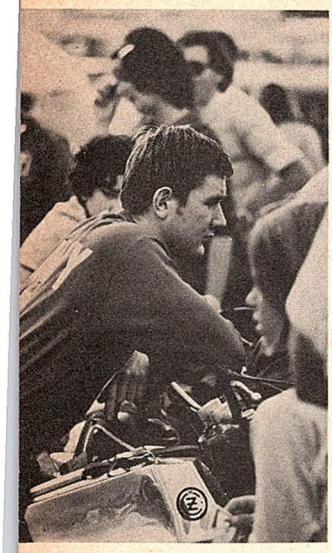
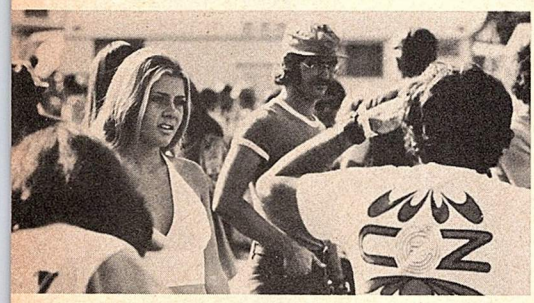
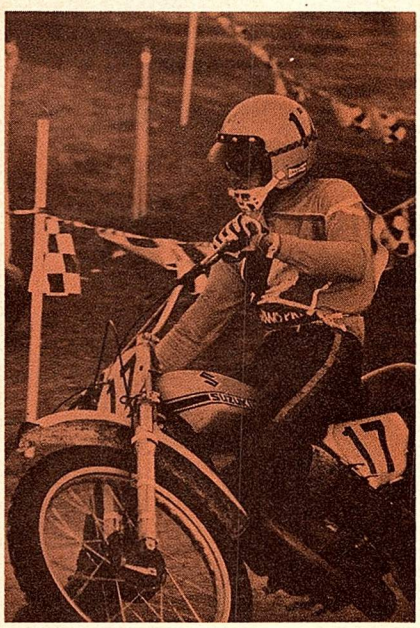
U.S. GRAND PRIX MOTO-CROSS
U.S. GRAND PRIX
27





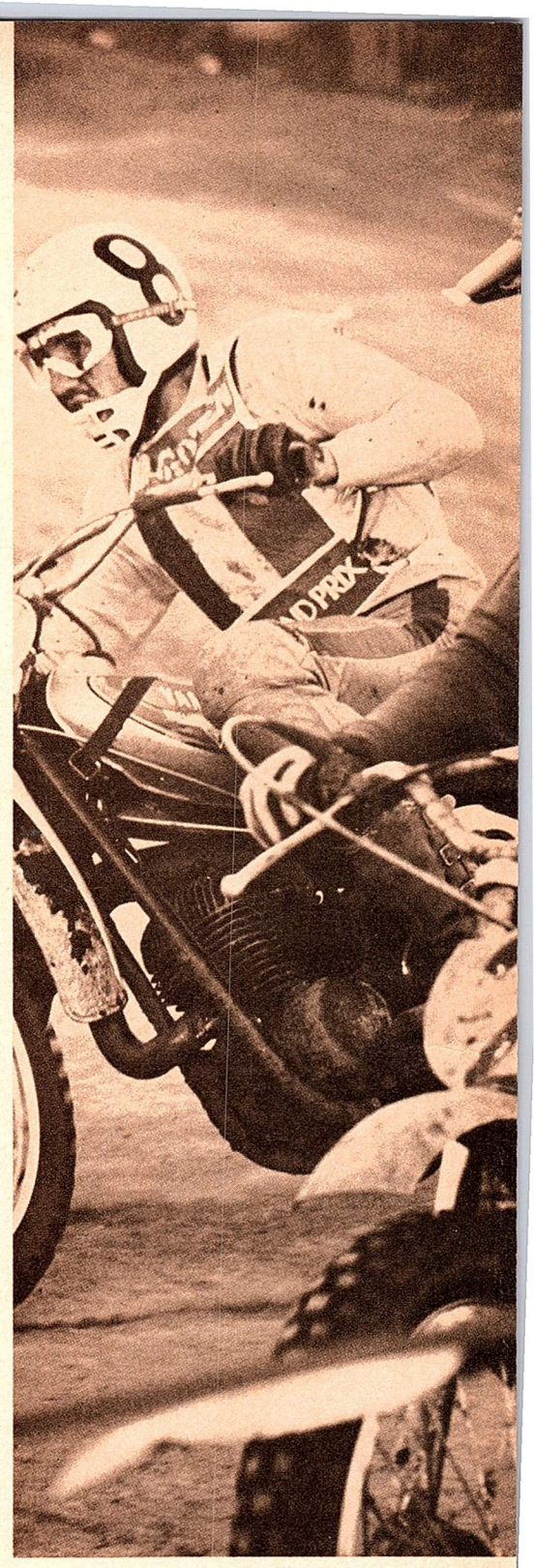


With Tripes exiting the contest second placeman Bob Grossi took over the premium spot and held it to the end with a confident smooth ride that indicated fine International class potential for the future.

The second support moto found Tripes back in the contest. Grossi, encouraged by his win fought his way skillfully through the traffic after an only-fair start. Tripes pursued relentlessly, passing the few riders who were ahead of him and moved into second to set to work on Grossi. Steadily Tripes closed ground on the first round winner, finally pulling abreast of Grossi just yards from the finish, but still just a few feet short of taking the flag first. On final points it was Grossi, Greg Robertson, and Jim West in the top spots with Tripes a very distant seventeenth.

No one with his wits about him would have hazarded a guess about the outcome of the GP class race, although Ake Jonsson was considered a better than even bet in light of his Trans-AMA performance thus far. Like Jonsson, even 500 class World Champion Roger DeCoster had been beaten at one time or another by most of the impressive field which included Heikki Mikkola, Arne Kring, Crister Hammergren, Bengt Aberg, Torlief Hansen, Miroslave Halm, Andy Roberton and (good Lord! He's still at it!) Dave Bickers.

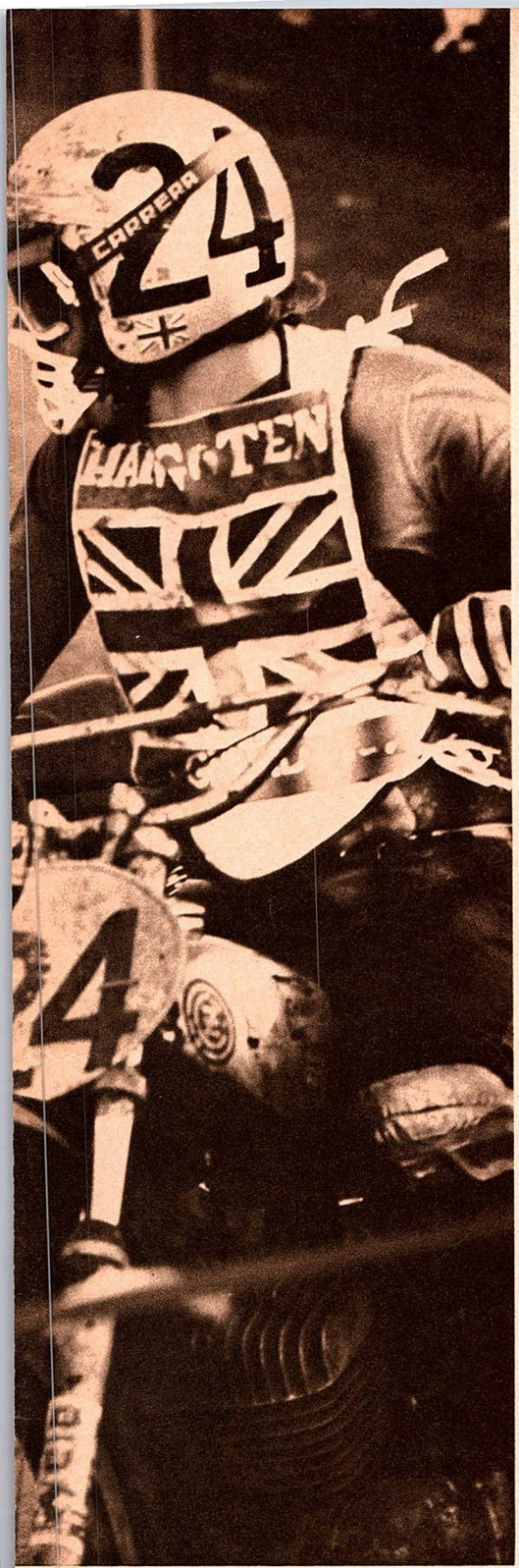
The first round of the GP opened with a star-spangled bang as youthful Yank Brad Lackey grabbed himself an early lead which he was to hold for three laps. Few of the 24,000 were unmoved by the 19-year-old's spectacular opening gambit as he circuited to applause and shouts of encouragement, pursued by an ever-closing Mikkola and Jonsson. In lap four the Finn and Swede slipped by and began to pull away. DeCoster had made a cautious start because of an injury he received the previous week, but by now he too was beginning to press, passing the rest of the field to tuck into third behind Jonsson.



GRAND PRIX MOTOCROSS

Still, Lackey continued to press on with the crowd behind him, until about halfway through the moto when he lost his edge and began to slow. Hans Maisch (Maico) got by and went off in pursuit of DeCoster. Then, late in the round Jiri Churavy (CZ) dropped Brad still another spot as the young American managed to hold off yet another CZ threat from Halm to finish sixth in the first moto behind Mikkola, Jonsson, DeCoster, Maisch and Churavy.

At the start of the second moto DeCoster sprinted into the lead with Jonsson and Maisch in close pursuit. Lackey was in fifth. DeCoster, the professionals' professional, was doing everything correctly, but not as quickly as he would have had he not considered the consequences to his damaged knee were he to crash. On lap four Jonsson passed De-

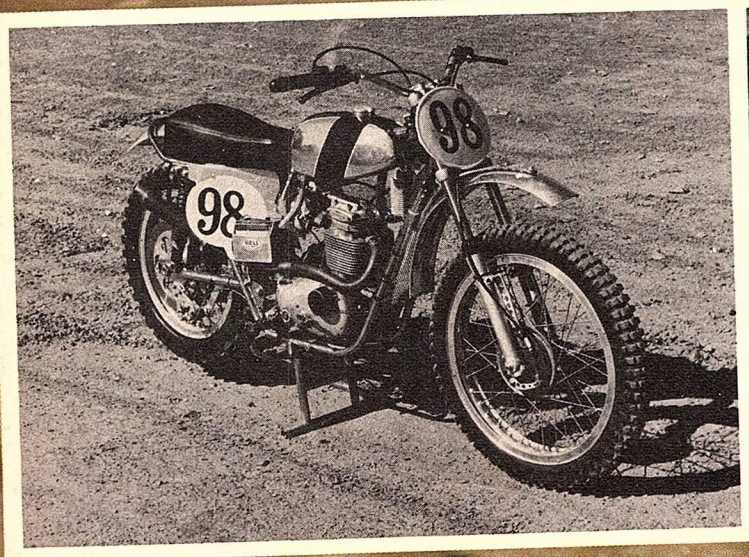


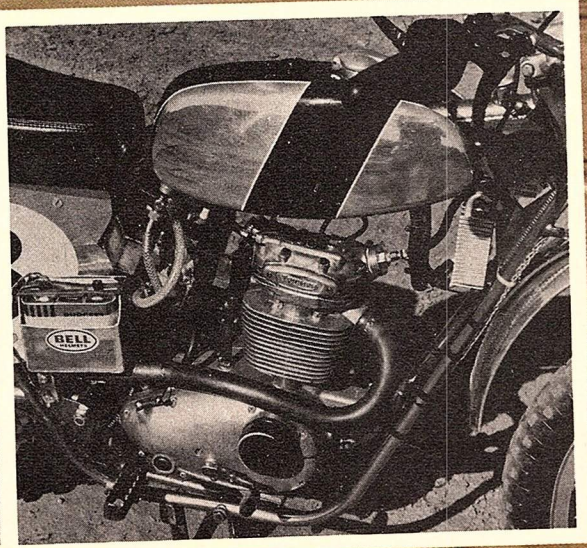
Coster to take the lead and held it to the flag. Jonsson's riding is a study in economy; no movement, no matter how slight, is made without purpose. Never does he seem to overcook going into or coming out of a corner. Rarely does he have any corrections to make.

Somewhere past the midway point fatigue began to show as nearly all of the field slowed ever so slightly. With a few exceptions lines became inconsistent, power application was ragged, and many engines themselves had lost the snap they had earlier in the day. And small wonder it was, for there had been a marathon practice session in the morning that saw most of the Internationals, Americans and Europeans alike, staying on the course for the entire time, riding very close to as hard as they did in the motos.

At the flag it was Jonsson, DeCoster, Maisch, Mikkola, Halm and Lackey—coincidentally the same order in which they were ranked overall. Jonsson, with five straight firsts, seems almost certain now to win the Trans-AMA. Also almost assured at this point is the U.S. title going to young Bradley Lackey. Perhaps just as important, however, is the status of next year's U.S. points GP. The program seemed to please the FIM representative, in spite of the crowd control problem. The Hang Ten was a first rate promotion, and certainly deserves a better epilogue than criticism on this one point. Whether or not it's a point payer next year it will be run, and run well. Big time International motocross has come to the U.S. and I don't think we're willing to let it get away. ●

HATELEY'S HAULER





A CLOSE LOOK AT A PROFESSIONAL'S PLAY BIKE.

It's a four-stroke single that goes like a jet. It tips the scale at a weight that most two-strokes dream about. And, it's a near perfect combination of play bike and motocrosser.

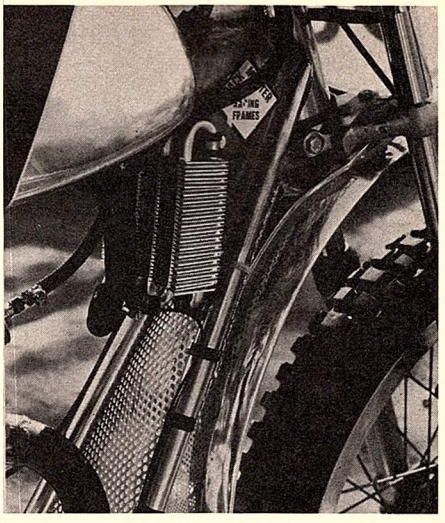
Originally, in one form or another, the bike was built for Professional shorttrack racing. The last time it was assembled it was intended to be a play bike, but it has proven to be a formidable motocrosser. The thing is ultra-light, it produces great gobs of usable power, it handles and it has showered a great number of two-strokes with clods thrown up by its churning rear wheel.

How did this super single come into being? It's quite an involved story!

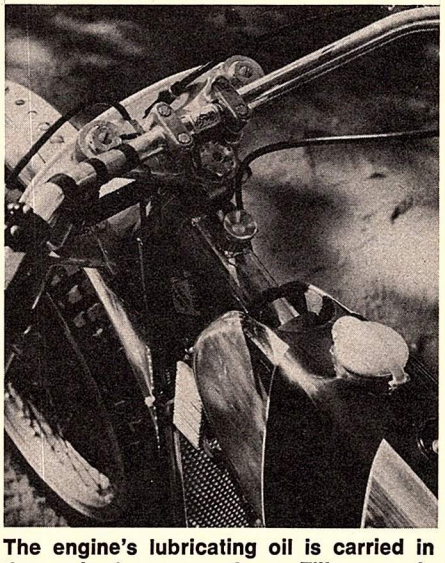
First, the power plant. In his first year as an AMA Expert, John Hateley was sponsored by Triumph. His road racer, his mile and half-mile bikes, his TT machine and even his shorttracker were all powered by Triumph. Shorttrack machines are limited by the rules to 250cc capacity, meaning that Hateley's ride was powered by the little Triumph push rod single. In its stock form this engine is hardly a world beater, yet a knowledgeable tuner (in this case John's dad, Jack Hateley) can get one to deliver whole herds of horsepower.

Hateley laughingly refers to his play bike as his Cub. The power plant bears next to no resemblance to the engine for which it is named. The late, unlimited 200cc Triumph Cub was an engine that gained most of its fame from its talent for bending valves. The engine in Hateley's Cub is almost a model of reliability and it produces power that the English designers never dreamed of. While John's dad did put the engine together, most of the trick components used internally are the handy work of a little old tuner named Tom Sifton. A good indication of the reliability of the engine is the fact that the head has never once been removed since the thing was originally put together in its shorttrack days. A good indication of the care with which the engine was assembled can be gained by noting the fact that the engine does not leave the tell tale tracks common to most English power plants; in other words, it doesn't drip oil.

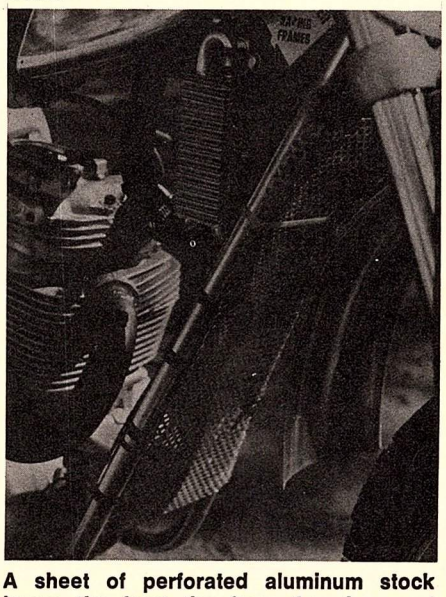
The oil cooling radiator mounted just to the rear of the steering head gussets serves two purposes. Its primary function is to increase oil capacity. As with most Trackmaster racing frames, the lubricating oil is carried within the frame members. In its shorttracking form the amount of oil carried in the frame tubes was more than sufficient. When the machine was converted into a play bike



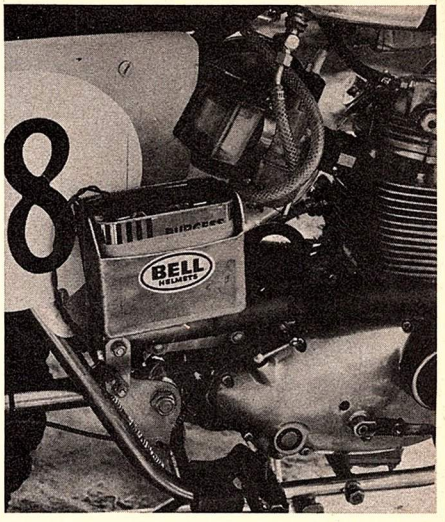
Small oil radiator serves two purposes: first, and most important, it increases oil capacity. Secondly, it does help keep the lubricant a little cooler.



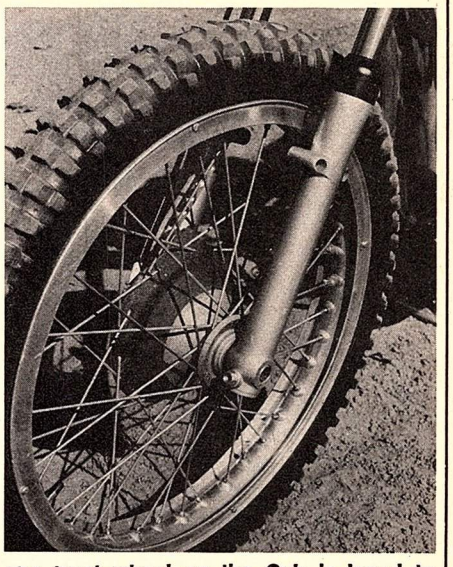
The engine's lubricating oil is carried in the main frame members. Filler cap is located just to the rear of the steering head.



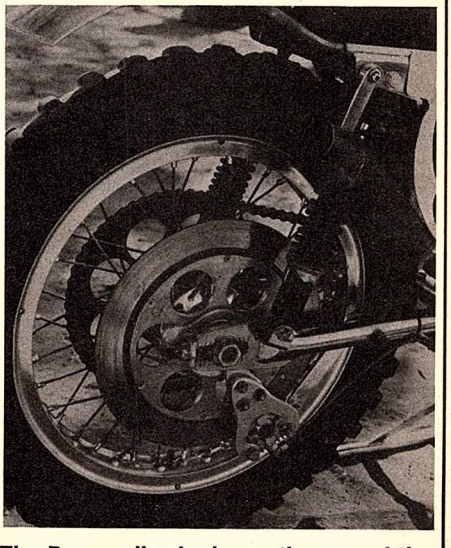
A sheet of perforated aluminum stock keeps the front tire from throwing mud up into the cooling fins.



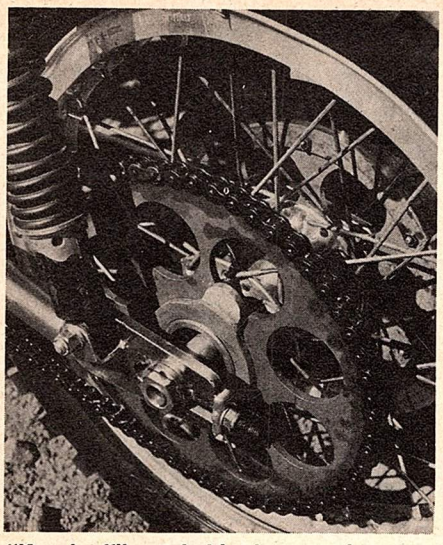
The dry cell battery for the total loss ignition system is carried in this manner. A smaller, and lighter wet cell battery has since replaced this unit.



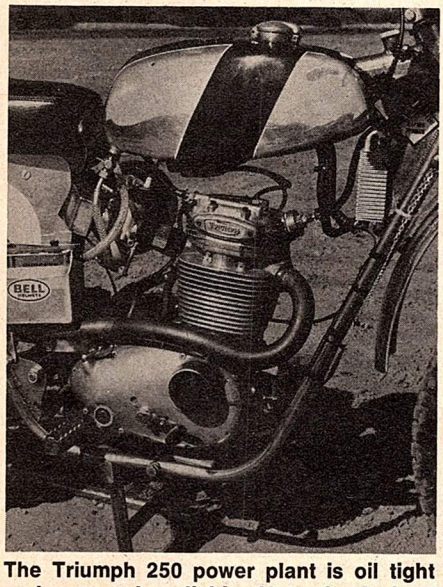
The front wheel on the Cub is laced to a magnesium CZ hub. Sheet metal screws in the rim take the place of a rim lock.



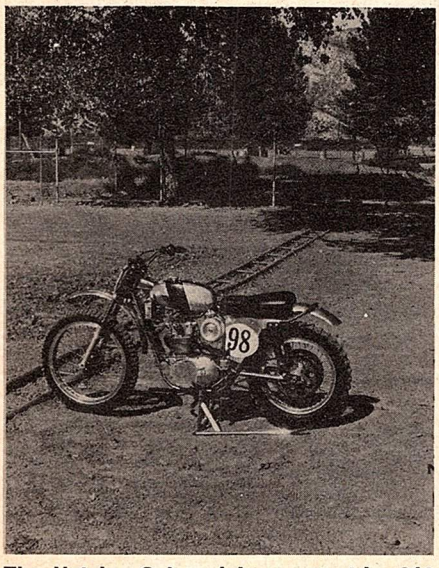
The Barnes disc brake on the rear of the machine is left over from shorttracking days. The disc works well on the play bike and is impervious to water.



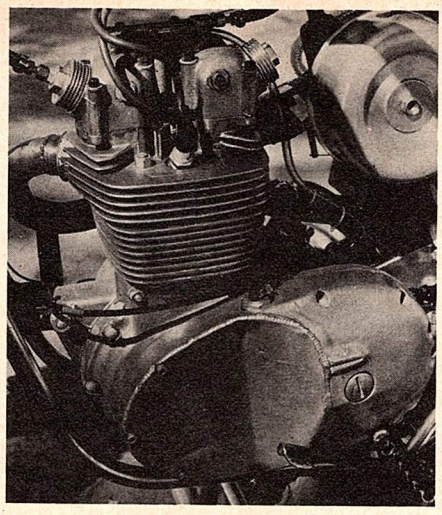
"Knock-off" nut holds the sprocket on a splined shaft. This arrangement makes it extremely simple to change rear sprockets.



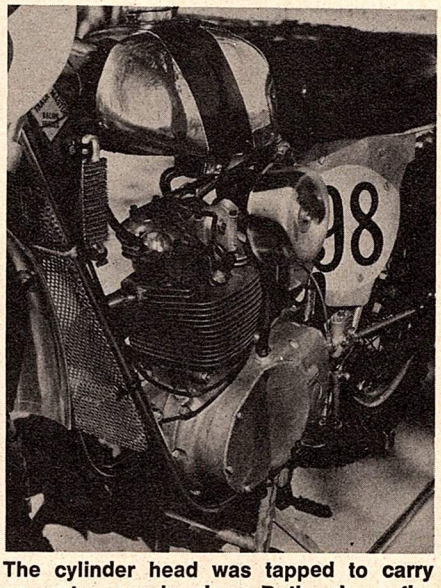
The Triumph 250 power plant is oil tight and extremely reliable. Note the lack of the kickstarter lever.



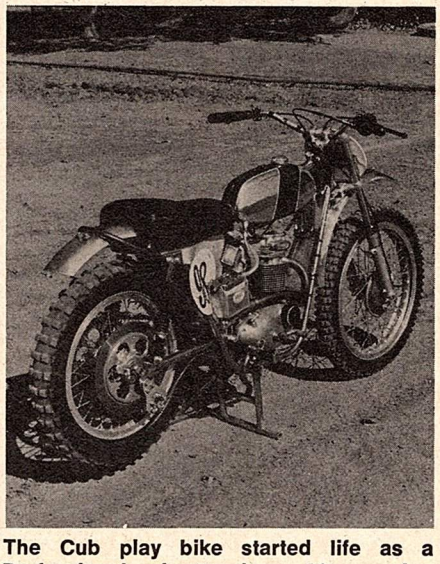
The Hateley Cub weighs a very trim 213 pounds, and it has proven to be a very successful motocross racer.



Cut-away on the engine is also left over from shorttracking days. The cover was cut in this manner to improve ground clearance when the bike was laid over in a turn.



The cylinder head was tapped to carry an extra spark plug. Both plugs fire simultaneously.



The Cub play bike started life as a Professional shorttracker. After going through many changes it has emerged as a really enjoyable play bike.

Hateley felt that more oil capacity would be wise, thus the fitting of the oil radiator. The secondary function of the radiator is, of course, to cool the oil.

Many of the other externally visible alterations to the engine are also in the interests of reliability. The cylinder head was tapped to carry an extra spark plug and a dual ignition system fires both plugs simultaneously. The stock air cleaner has been replaced with a spun aluminum canister which is fitted with a Filtron element. A concentric bowl Amal carburetor meters fuel to the combustion chamber. The carburetor is mounted on a rather long inlet stub and the passage between the carb and the air cleaner takes some horrendous bends. This configuration violates most rules for getting air to the mouth of the carburetor but, it seems to work.

The exhaust pipe configuration and location on the Cub is just about ideal. The head pipe curves quickly rearward and snakes along the top of the right engine case, it then passes inside of a frame member and then kicks upward to terminate in a small megaphone. In this form the exhaust system is completely out of the way of the rider. The megaphone is held in place with a radiator clamp and it can quickly be replaced with a silencer.

A battery for the total loss ignition system is carried in an aluminum box mounted adjacent to the right side number plate. Currently, a rather heavy dry cell battery is used. In the near future, this dry cell unit will be replaced with a considerably lighter wet cell battery. The only drawback with the total loss ignition system is that it's necessary to remember to disconnect the battery every time you stop running the bike. Forget this and you'll find yourself stuck with a dead battery in very short order.

The frame on Hateley's Cub is exotic even by Trackmaster's standards. In order to conserve weight on the original shorttracker special smaller than ordinary diameter chrome-moly tubing was used in the construction of the frame. This weight cutting resulted in an extremely light frame. It also resulted in a frame that was acceptable for shorttrack racing but too fragile for the rigors of hard cow trailing and motocross. When the decision was made to turn the clod into a play bike it was obvious that some additional metal would have to be welded onto the thing to keep it in one piece. Additional bracing gussets have been welded in the area around the steering head, the bracing on some of the engine mounts has been beefed

up and a fender supporting loop was welded to the aft of the bike. In order to improve the riders position on the machine the footpegs were relocated rearward on the frame. Lubricating oil for the engine is carried in the main frame members and the filler cap is located on the backbone tube just aft of the steering head. The swinging arm is fabricated of tubing that's considerably larger than that used in the rest of the frame and, thus it is already strong enough to withstand the abuse brought on by rough country riding.

The suspension chosen by Hateley for his play bike is about as good as any you're likely to find. Suspension at the rear of the bike is provided by a pair of three-way adjustable Koni shocks, while springing at the front of the machine is furnished by Ceriani forks.

Borani light alloy rims are fitted to both ends of the machine. The 21-inch front hoop carries a Dunlop Sports knobby, and the rear of the bike is shod with an 18-inch Dunlop K 88. The front wheel is laced to a lightweight CZ magnesium hub. The rear wheel is laced to a Barnes spool hub which is really trick. Both ends of the hub are threaded and splined. Both the final drive sprocket and the disc brake are broached with splines which correspond to those on the hub, and both are held into position by large "eared" nuts. There's a very good reason for this rather involved arrangement. In Professional bowl racing where the machines constantly turn to the left, the left side of the rear tire wears out before any appreciable wear appears on the right side. With the splined sprocket and brake disc it's a simple, and quick matter, to turn the wheel around and equalize the wear on both sides. Additionally, the arrangement is convenient since its simplifies the changing of final drive sprockets. Aside from the weight saving brought about by the spool hub/disc brake arrangement, there's also the advantage found in the fact that the disc brake is impervious to moisture.

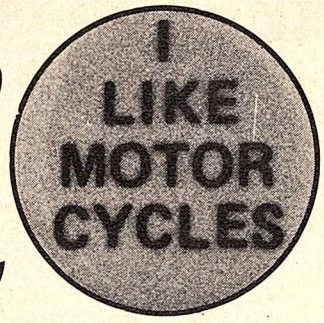
Lightness was a prime consideration in the construction of the Cub play bike. Both the front and rear fender are standard accessory items fabricated of aluminum alloy. The side number plates are also of aluminum and each is held in place by three Dzus fasteners. The tank is one of those beautifully formed little units offered as original equipment on the BSA motocrosser. Additional weight was saved in the choice of handlebars and control levers. The bars are an Akront item of aluminum alloy and the plastic control levers are made by Uni lever. The seat on the Cub was designed and built by Hateley, and it's extremely light.

Hateley's concern with lightness was based on the fact that the little Triumph single would only produce so much power and, thus it was necessary to reduce weight to make the machine as efficient as possible. Hateley went to great lengths to obtain the desired lightness. The axles were drilled out, lightening holes were drilled in many of the unstressed components and everything on the bike was selected with an eye to saving weight. All this attention to detail paid off; wet and ready to run the machine tips the scales at 213 pounds.

It's a real pleasure to watch the Cub at work on the motocross course. The average two-stroke rider hasn't the faintest idea what it is but assumes, because of the gas tank, that it's some kind of BSA. These riders flock onto the course in glee, looking forward to putting it on the kid on the four-stroke. After five or ten laps of impromptu competition Hateley usually has the course to himself, and the two-stroke riders are back in the pits licking their wounds. Hateley's Cub is fast, it's smooth, it's light and it handles.

There was a time when the big four-stroke singles ruled the dirt. Hateley's Cub may be one of the very last thumpers still competitive. We do know that the sound it makes should be heard by every confirmed rider. Heard, and then filed away in the memory banks to be called forth when it's time to reminisce about really great motorcycles. ●

NEW! FROM GROWCO



1005 I LIKE MOTORCYCLES. Here's the button that will put the finishing touch to that favorite hat or jacket. These large 1¼ inch pins are white with brilliant red type and sell for: **2 for $1.00; 5 for $2.00.**

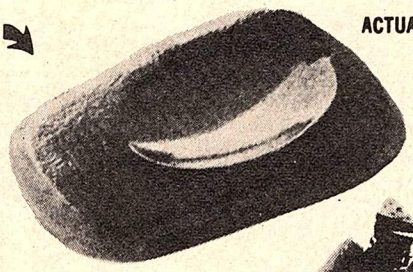
1010 PAIN HURTS. The button that is guaranteed to bring a chuckle from anyone who sees it—especially those who have gone through an unpleasant experience such as failing to see that two foot ditch while roaring through the desert at 50 miles an hour. OUCH! PAIN HURTS!! These large 1¼ inch buttons are yellow with black print and make a great gag gift. **2 for $1.00, 5 for $2.00.**

1009 I LIKE MOTORCYCLES. These stickers are just the thing to dress up the rear window and bumper of your car, truck, etc.

NOT DECALS! , decals are difficult to put on and they also chip and peel in a short period of time. Our stickers are self-adhesive clear vinyl with durable white type—just peel off the backing and apply to any clean surface. These stickers are sold in a set of two; One for mounting on a bumper or outside surface, and the other is printed in reverse for mounting on the inside of a car window. **$1.00 per set of two.**

1006 WORRY STONE. Trying to quit smoking? Tension getting you down? Bitten off all of your fingernails? Well here's a better way, try this ancient Indian method of relieving tension—just rub the stone with your thumb and be amazed at the calming effect it brings. Stones are hand carved from solid onyx. **$1.00 each.**

ACTUAL SIZE



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CANOGA PARK, CALIFORNIA 91304

MAIL

(Text continued from page 8)

me to believe that you feel that skill in maneuvering a motorcycle is of prime importance in the Six Days. Not so, the ISDT began as, and is still considered to be, a reliability or endurance run. (If skill in maneuvering a motorcycle is what you appreciate, I suggest you groove on the Scottish Six Days.) In the years when the ISDTs were first run, motorcycles were both unsophisticated and generally unreliable. The whole purpose of the Trials in those years was to nurse a motorcycle along for a period of six days. Those machines which finished the event were deemed to be extremely reliable. As years passed, and motorbikes became more sophisticated and more reliable, the organizers of the Trials were forced to select ever more rugged terrain in order to maintain a high degree of difficulty for the competitors. Today, it's the endurance of the rider rather than the machine which usually determined who receives a Gold medal and who fails.

With this in mind I feel that it's very safe to say that the ability of a rider to carry on under strain, and even physical pain, has much to do with success in an ISDT.

Finally, I'd like to ask a few questions. Why was the entry for your two day trial limited to just 70 contestants? Why did less than 50 percent of those contestants entered finish the event? And, why was the event held at a time of year that caused the riders to perform under the strain of extremely low temperatures? If your organization has difficulty laying out and running an event for only 70 riders I hesitate what might happen when a full complement of ISDT competitors descend on the Berkshires. I look forward to receiving your report on the two day trial.

Dear Sirs:

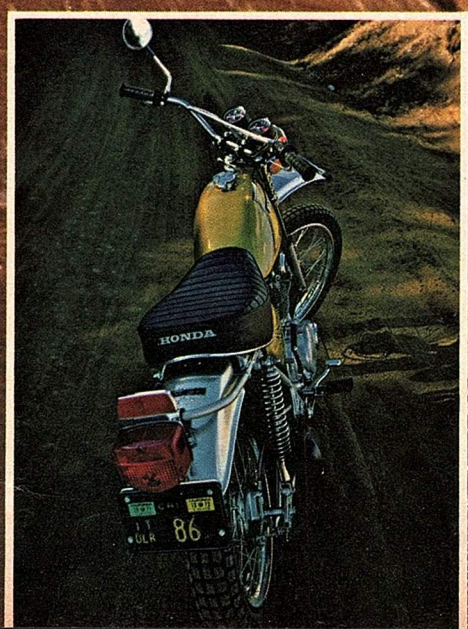
Just who is J. G. Krol of Anaheim, California? After reading "A Blast From the Publisher" in your October issue, to be more specific, the part entitled "Can You Believe This?" I did indeed get a case of the giggles. Mr. Krol is definitely loony. His writing style was familiar and his name was even familiar, so I dug back through my stacks of magazines and found in the July issue of **Cycle** Magazine, a letter by none other than J. G. Krol. It seems that J. G. is hung up on expansion chambers. In that

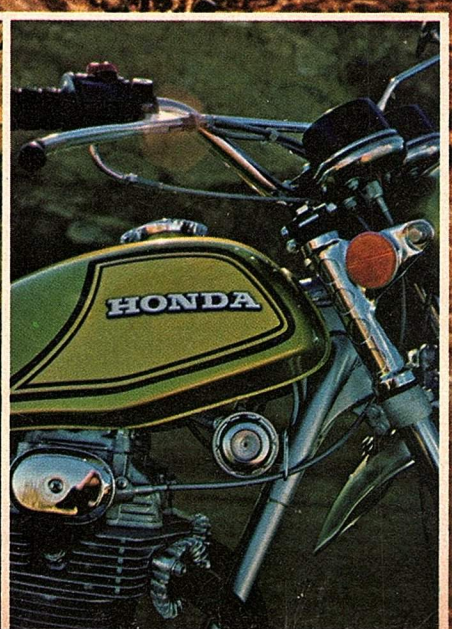
(Text continued on page 73)

TEST: HONDA SL-350

ONE OF THE BETTER COMPROMISES

It's difficult to say just when the street-scrambler concept of motorcycle design first saw light of day. Honda is most often given credit for the introduction of the schizophrenic



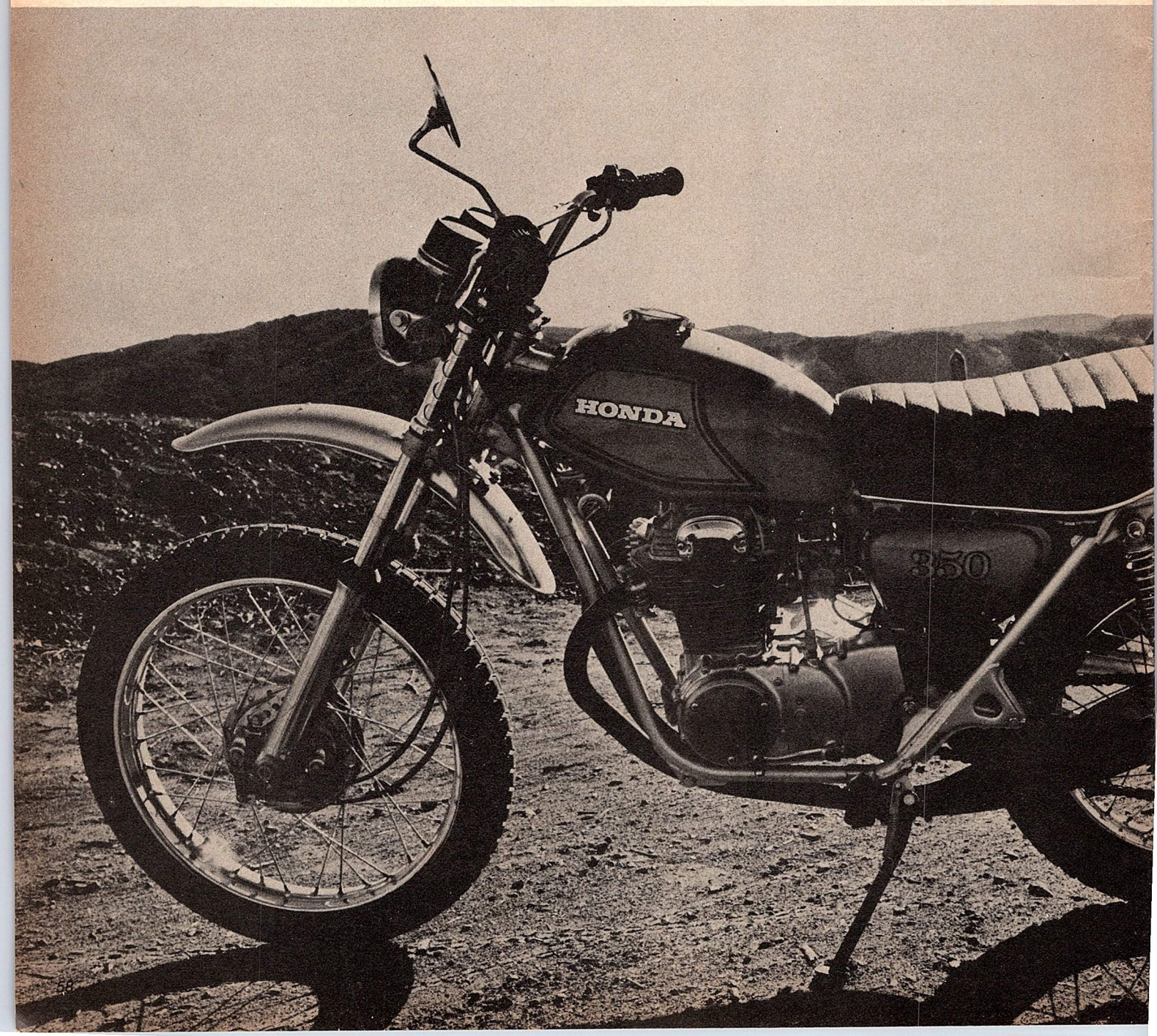


motorcycle with their very popular SL-250s of the early '60s. One small but very vocal camp of enthusiasts insist that Bultaco's 200 Matador was the first true dual-purpose bike, pointing out its excellent off-road behavior—an attribute not shared by the Honda. And then there are those who maintain that the honor belongs to Triumph for their 500cc Tiger 100C; certainly there is merit in their case, because the 100C was not only a very good road bike but it was also a very competitive off-road racer. And still is, in cross country desert racing.

That the argument will continue without resolution is a certainty; there are almost as many opinions on the issue as there are street-scramblers. The important point here is that there will always be compromise motorcycles to be purchased and enjoyed so long as there are wooded trails and dirt roads on which to ride them, and so long as there are riders, who, for one reason or another, confine themselves to one motorcycle at a time for both transportation and fun.

In the decade or so that the dual-purpose motorcycle has been with us tons of improvements have been made by all manufacturers to the point that it is presently reasonable to say that a state-of-the-art in street-scrambler design exists as surely as it exists for all-out competition models. Chassis geometry and suspension schemes fall within predictable limits; engine output characteristics are somewhat familiar from one make to the next; cycle parts are close to being interchangeable between labels; and visual packaging guarantees instant recognition. There remain only the individual variations on the well-developed theme to set one model apart from its competition.

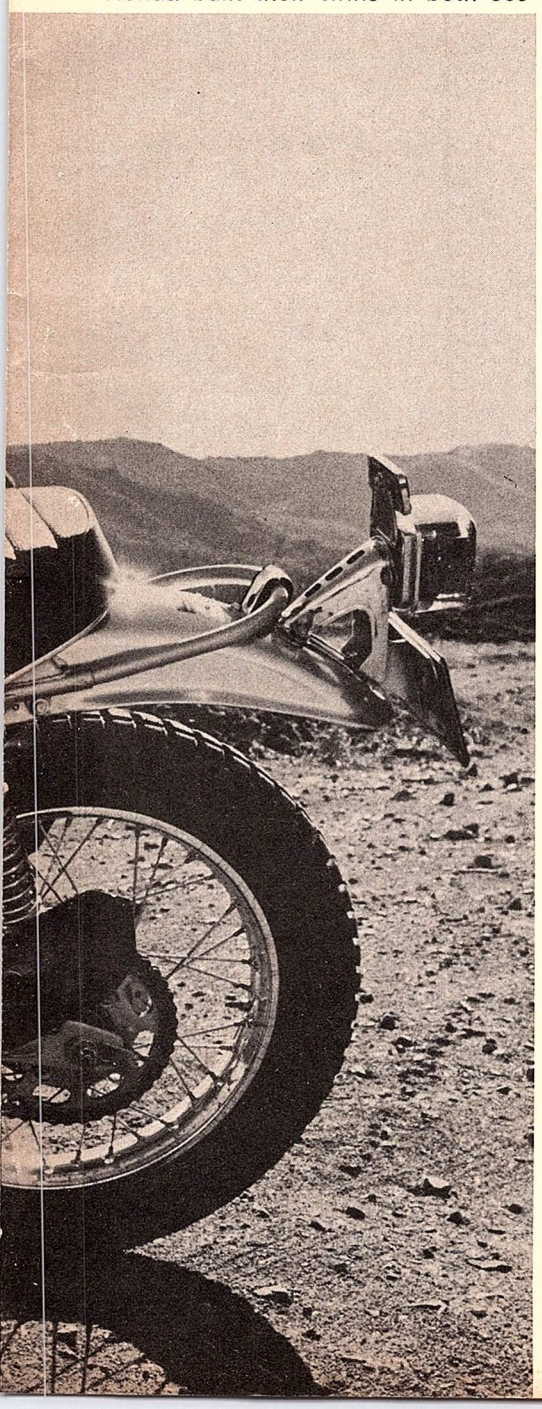
Few modern street-scramblers are really unique, but of those that are the Honda SL-350 is one of the most unusual. The Honda isn't unique because it is all new or particularly innovative, but because it stretches the accepted design parameters with its chunky ohc two-cylinder engine and beefy chassis. The ubiquitous twin has been Honda's sales leader almost from the time it was introduced, and would that Honda were more cooperative in releasing sales figures, because it's a safe guess that the 350 has probably been built and sold in larger numbers than any other motorcycle engine. Small wonder, considering the good guy image the power plant has earned through its automobile-like dependability and

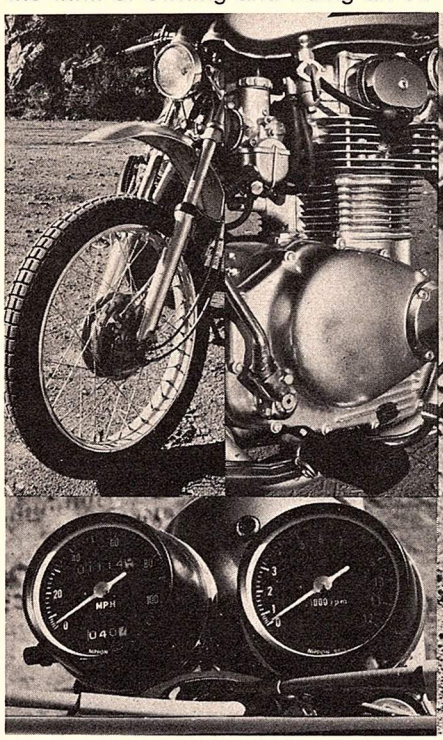


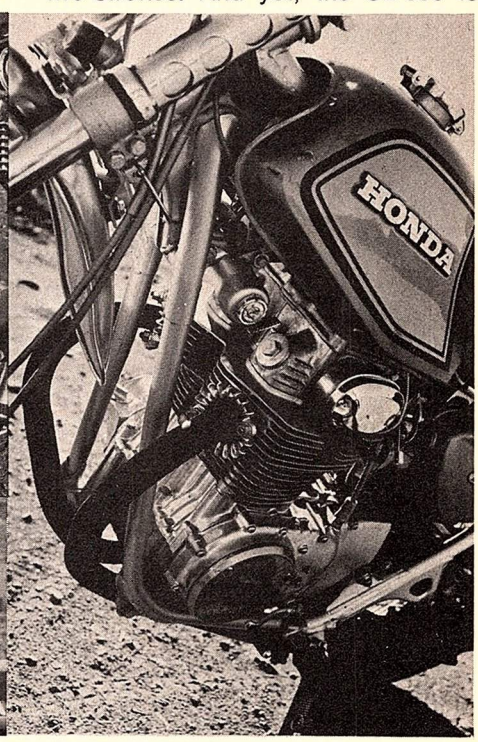
longevity and long-as-an-arm power band.

If there's one thing the Honda 350 will never be accused of it's doing something silly. The ohc 350 is about as tractable as a 21 cid engine has ever been, and for the SL model the engine has been made even more docile than usual with cam profiles and valve timing that stretch its effective power band to extremes that are more common to many more inches. Add to the mild valve train a modest pair of conventional Mikunis —in contrast to the CV units used on the CB model—and an exhaust system that is quietly tight and the result is a seemingly lazy engine that is quite content to tractor along endlessly without grousing and spitting.

A long time ago, when Hector was a pup and Brelsford was a paperboy, Honda built their twins in both 360- and 180-degree crank versions. The first models introduced into the U.S., the CB-92, CA-72, and CA-77 (125cc, 250cc, and 305cc, respectively) were 360-degree models. And oh my, children, what fun they were; for little more than the cost of a pack of cigarettes a day one could have himself a storybook ohc twin that sounded like a dwarf Triumph. For any riding maneuver other than a straight line on pavement the little devils were difficult to manage, and took to flinging their new devotees to the ground with great predictability. Despite the fractures and bruises that mounted daily like an Arab-Israeli body count the die had been cast (along with many an arm and leg). Never before had there been so much power available from production lightweights, nor was anyone quite able to vocalize the thrill of owning and riding an oil-free, trouble-free motorcycle that could be rebuilt on the revenue of returning pop bottles to the corner grocery.







But Honda have always been good listeners, and good marketeers. They obviously reckoned that once the first bloom had faded their customers, both real and hoped for, would grow tired of the intractable twins, no matter how sweet the deal. Much consultation was entered into with recognized experts in the sport in this country (**Modern Cycle's** editor Ekins included) and the decision was made to go with the 180-degree crank design with its "big single" output characteristics. Suddenly it was a fresh game; the new CB models had their road equipment stripped from them almost as soon as they emerged from their crates and a new regiment of dirt riders fronted up overnight to lead the revolution.

Several years and many thousand Honda twins have established the present SL-350 as a sales success. Like Volkswagens they maintain decent resale value, seem to run forever, and all look pretty much alike. Rarely is the SL-350 thought of as a performance model although several of its breed have shown themselves to be very capable long distance runners when properly prepped and expertly ridden. Comparing the Honda visually and statistically with its competition gives no indication of what the motorcycle is capable of. It's a great bulky thing prone to crash through obstacles rather than hurdle them. Its great lumbering power plant lacks the zest of the elfin-weight two-strokes. And yet, the SL-350 is one hell of a fun motorcycle on or off the pavement.

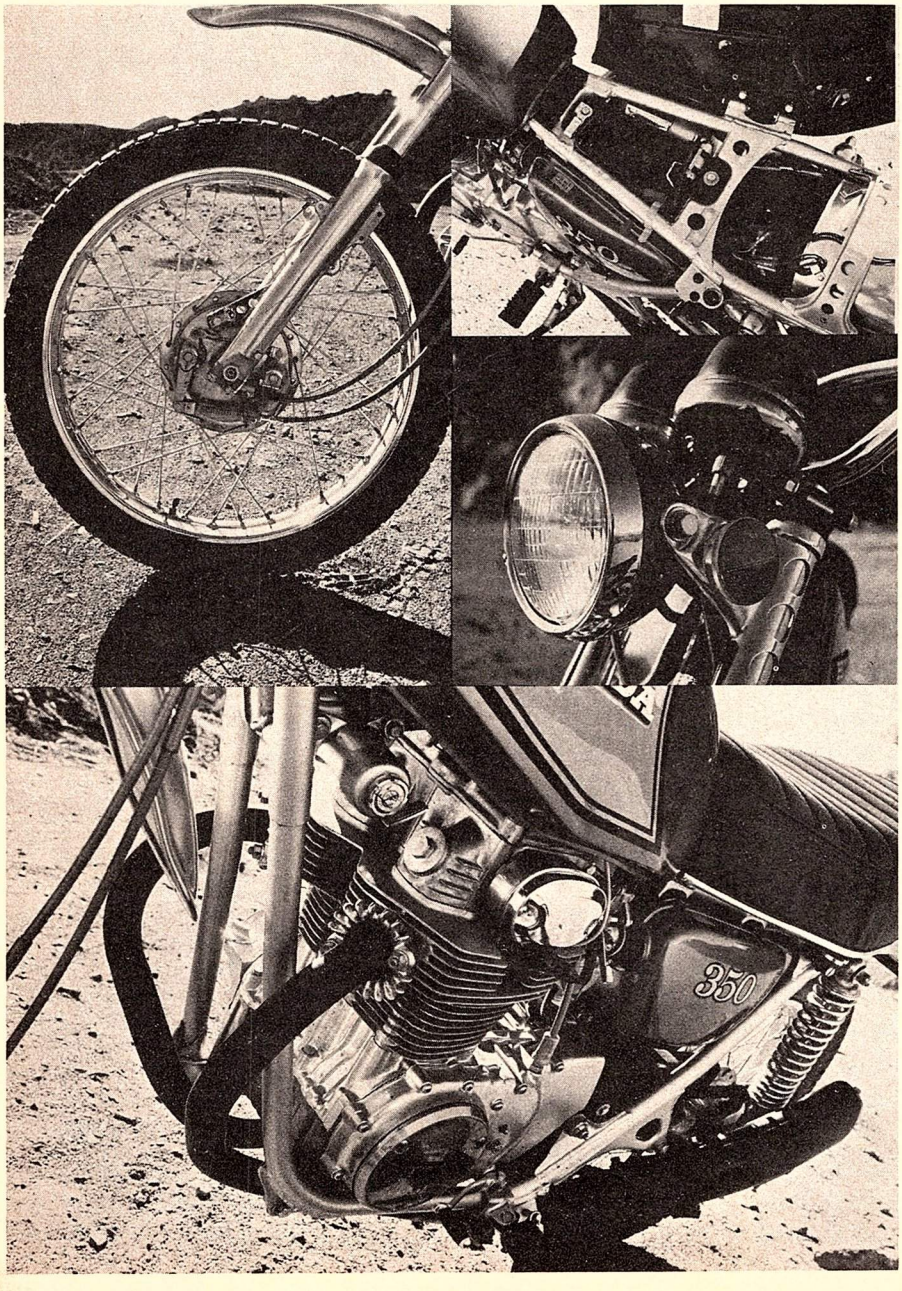
As a streeter the Honda is spectacularly good—a superior handling piece to many roadsters, wonder of wonders (it has a 3-inch larger wheelbase than the CB and CL models), and even at freeway speeds its compromising nature is acceptable. Box stock the 350 cranks around 6,800 rpm at an indicated 70 mph. In view of the redline drawn at 9,000 the engine is only slightly over-cooked at road speeds. A tooth or two extra on the countershaft sprocket would do wonders for the SL, especially so because of its super-low walking-speed first gear.

On the slippery stuff—dirt roads, moderately deep sand and such—the SL is exceedingly more capable than

might be imagined. The front end exhibits little tendency to drop when the motorcycle is driven hard into a heavy surfaced turn. Usable fork travel is maintained to enhance really excellent front end feel. Steering corrections are almost always possible; rarely, during miles and miles of fireroading with the SL, was front end travel and control used up to the point that the front wheel began to skate.

There is a light, detectable tendency of the rear wheel to outrun the front; there are so many variables involved here—tire pattern, air pressure, wheelbase, head angle, trail, ad infinitum—that reasons cannot be intelligently argued, just conjectured. No matter; the characteristic is hardly worth mentioning. When the rear does begin to skate under acceleration out of a turn a slight adjustment in cross up sets matters right and finds the SL driving straight. The 350 invites experiment in the gamut of riding styles and is delightfully responsive to feet up power-on slides with the rider's weight to the inside of the turn. In this attitude, with the motorcycle reasonably straight up and down, it steers beautifully and soon has one repeating the maneuver over and over. The only surprise we experienced was that it is always predictable, far beyond expectations.

That the SL is more than cosmetically different from the CL and CB models is apparent in the transmission internal ratios. First and second gears are nestled somewhat closely, with broader jumps between second and third and third and fourth. The jump from fourth to fifth gear is proportionately shorter to make the torque peak readily accessible at fairly brisk velocities. Despite its stiff Honda feel the transmission shifts cleanly, up and down, with or without assistance from the clutch. Clutch feel is progressive and reasonably light and evidenced no detectable fade under hard use.



Suspension performance is greatly improved over previous offerings but is still too unyielding on heavily rutted surfaces. Sharp-edged holes produce hobby horsing when an all-out attack is mounted. The fault seems to lie with the SL's weight rather than spring rates and damping which are compromised in favor of all-around use.

Honda have wrought a few dimensional changes in the SL with a resulting better riding position. The seat height has been lowered slightly, and the relationship of the handlebar to the pegs makes the transition from sitting to standing effortless. Both hand and foot controls are well positioned, and gear changes while posting are easily made.

Lighting is abundant and exceedingly better than that usually found on dual-purpose motorcycles. Directional lights, not fitted to the test bike, are likely to appear after the first of the year when Honda introduces their new line. There are no indications that the SL will otherwise be changed to any marked degree.

The SL-350's good manners both as a sporting mount and as a neighbor are commendable. Honda continues to advance the "nicest people" concept that helped put them and motorcycling in general on the map. And very obviously it hasn't hurt neither their image nor their sales. When pressed very hard, using the full sweep of the tachometer, the SL is just pleasantly throaty and is well out of earshot before out of sight.

Maintenance history on the 350 engines and transmissions is excellent as long as service isn't neglected and the units are severely mistreated. Honda chassis and cycle parts are deservingly well regarded for staying together through many thousands of miles and several owners, and we have little reason to believe that the current SL-350 will alter the reputation; if anything, it's tougher than its predecessors.

As an all-out racer the SL-350 isn't even a serious consideration. As a street bike it falls somewhat short of being excellent despite its better than average handling. But as a compromise motorcycle that can be counted on to do a good job of all its assignments, day in and day out, over a period of several years with little more attention than that given the family car, the SL-350 offers as good a dollar value as one might hope for, and certainly it rates as one of the better compromises. ●

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MAXIMUM SPEED AS GEARED 87 mph
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ENGINE

Engine Type	VERTICAL TWIN, SOHC
Bore	64mm
Stroke	50.6mm
Displacement	325cc
Compression Ratio	9.5:1
B.H.P. at R.P.M.	N.A.
Carburetor	(2) 24mm, KEIHIN
Ignition	BATTERY AND COIL
Starting System	KICK
Lubricating System	PRESSURE, WET SUMP

FUEL AND OIL

Oil Capacity	2.1 QUARTS
Oil Recommended	10-40 PREMIUM
Fuel Capacity	2.4 GALLONS
Fuel Recommended	91 OCTANE
Approximate mpg	65

FILTERING SYSTEMS

Air	OIL WETTED FOAM
Oil	SCREEN
Fuel	SCREEN

FRAME

Frame Type	DOUBLE CRADLE
Weight Distribution	FRONT: 46%, REAR: 54%
Wheelbase	55 INCHES
Ground Clearance	9 INCHES
Peg Height	13 INCHES
Seat Height	33 INCHES

SUSPENSION-TYPE

Front	TELESCOPIC FORK
Rear	SWING ARM

SUSPENSION-TRAVEL

Front	6.7 INCHES
Rear	3.7 INCHES

DRIVE TRAIN

Clutch Type	MULTI-DISC, WET
Primary Drive	GEAR
Countershaft Sprocket	16 TEETH
Final Sprocket	42 TEETH
Final Drive	SINGLE ROW CHAIN (2.625:1)
Gear Ratios	Overall
1st	2.866:1
2nd	1.800:1
3rd	1.333:1
4th	1.035:1
5th	0.870:1

TIRES AND WHEELS

Front	3.00x21 TRIALS UNIVERSAL
Rear	4.00x18 TRIALS UNIVERSAL

IMPRESSIONS

	Poor	Good	Excellent
Throttle Response		●	
Acceleration		●	
Power Band			●
Starting		●	
Engine Noise			●
Muffling			●
Vibration		●	
Handling		●	
Choice of Tires		●	
Suspension		●	
Rider Comfort			●
Transmission			●
Instrumentation		●	
Lighting		●	
Toolkit		●	
Paint and Chrome			●
Styling		●	
Mileage			●
Braking		●	

NUTS AND BOLTS

(Text continued from page 10)

arms, lengthening the flat plate the rear axle mounts in is not the answer. It is best to lengthen the arm by sectioning the swing arm tube somewhere near its pivot point. Personally, I am not a fan of making swing arms longer to compensate for a poor handling problem. It can generally be corrected on this model with suspension modifications.—Ed.

Dear Sir:

I currently own a Suzuki 90 with dual-range transmission. I was wondering if I could increase the horsepower without boring the cylinder out? I have a 3.50 x 18-inch knobby in the rear, and a Filtron air filter for air filtration. Could a Hooker expansion chamber help me any in climbing hills or in mud holes as I ride 100 percent in the dirt. The most I would like to spend is $55.00 in these adjustments. Please inform me as much as possible.

Todd Blonder
New London, Conn.

The expansion chamber would help you create a lot of ill feelings among those within ear shot. If you're not going for a larger motorcycle, try about ten more teeth on the rear sprocket and a new chain.—Ed.

Dear Sir:

Is there any possible way of eliminating the battery on a 1971 AT-1C Yamaha without buying the magneto system? In the owner's manual I received with the bike it says to remove the battery during rough riding. It also says to remove all electrical components except the generator and ignition coil.

I would greatly appreciate any help you could give me, as I'm planning to race it this summer and could sure use the loss of weight.

Bill Ziegler
Pierce, So. Dakota

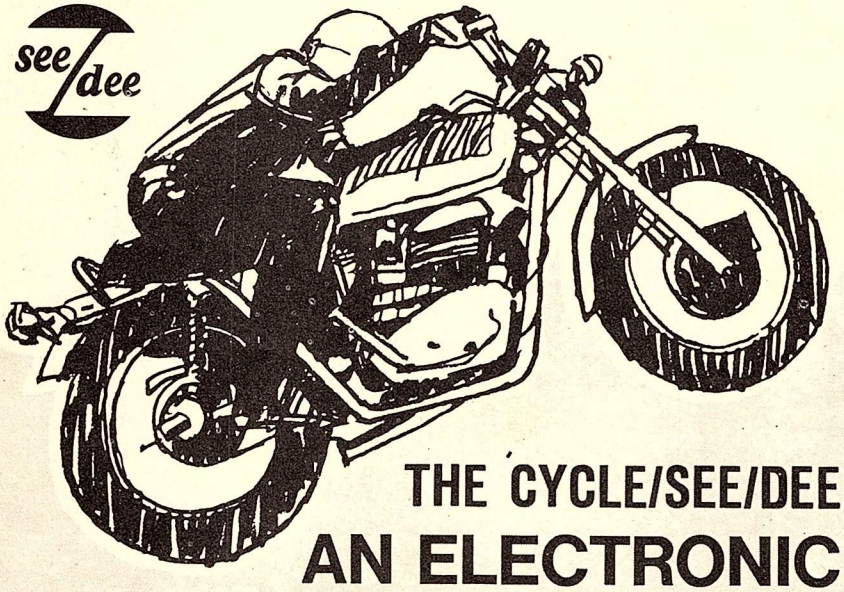
I think you're looking at a CT-1 owner's manual, the model with the magneto ignition and no electric starter. You cannot motor your AT-1 around minus battery because it does not have that kind of sparking system. Some people have installed the CT-1 system on the AT-1s with success and a great deal of expense I might add.—Ed.

Dear Sirs:

I am the owner of a 1970 Harley-Davidson 125cc Rapido. I would like to buy a silenced expansion chamber for it, but I just can't seem to find a manufacturer who makes one for my bike. I need a new pipe anyway, and rather than buy a stock muffler I would like to have an expansion chamber for it (since it would only cost a little more money). I have heard that the chamber that Hooker Headers makes for the Harley-Davidson 100cc Baja would also fit my bike, but I am a little doubtful to buy one. Even if it does fit, the different displacements and compression ratios would seem to alter any increase in performance, and I sure wouldn't want to waste my money. I will be very grateful for any suggestions you might have, because to tell you the truth, I'm stuck!

Keith Palmentera
Brook Park, Ohio

Right on, Keith! Not just any expansion chamber will work. Fact is, nobody I know of makes one for a Rapido. I guess the best move for



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you is to install one of those efficient, quiet running stockers. The other kids won't laugh at you, honest.—Ed.

Hi Dave!

I am pretty new to dirt riding and what riding I do is on a H-D Baja. Since you have ridden this bike with great success I have a few questions I hope you will answer. Are there any other plugs I can run in my bike besides H-D plugs (Champion or NGK)? Can I fit a 4.00 tire on the standard 3.50 wheel? Lastly, would there be much of a speed difference if I were to run it on the smaller sprocket for flattracking, and do you think this is a very good motocross bike? Your answers will be highly respected; keep up the good work!

Tom Balames
Utica, Michigan

Unfortunately, the Baja was designed to run in a straight line, it doesn't corner too well. The 4.00 tire would not work because it is just too big with changing sprockets, that won't and the engine can't pull it. The same work either. Most every spark plug company make plugs to work in the Baja; it's just a matter of researching the proper heat range.—Ed.

Dear Sirs:

I presently own a 1971 Kawasaki 125. After reading your latest issue I was wondering if my bike could be converted to a 175 the same way as your "Kawasaki Conversion" (250 to 350cc)? I know it has the same stroke, but is there any other differences that would prevent such a conversion? Also, if I were to make such a conversion, I was thinking about using a Webco high compression head, a Teflon "Super Piston," and a Hooker tuner; not to mention a stock cylinder, gaskets, etc. Is there anything wrong with this combination? Please comment.

Mitch Haugrud
Rush City, Minn.

I think the 125 will go out to 175 just as we did with our F8 project. However, your dealer knows better than I, talk to him. As far as the other goodies go, you're shootin' in the dark.—Ed.

Dear Dave:

I own a 125cc Bultaco Pursang (1972). I would like to know if there is any company that puts out reed valve info on a Pursang? If I installed one, what could I expect in power characteristics? I would deeply appreciate an answer to my letter, I can't find any help in Iowa. Keep up the great work in your mag.

Mike Berhow
Knoxville, Iowa

Reed valves are nothing new, Mike. You'll find them in chain saws and outboard motors, although I doubt if any company is specifically making them for Bultaco Pursangs. A few Buls I know of have been modified for reeds, and their increase of power occurs in the lower rpm ranges. However, in those cases there was a loss up top due to the restrictions caused by opening the reeds. I still don't recommend them for motocross.—Ed.

Dear Sirs:

In your November issue, "Nuts & Bolts," you received a letter from a guy having acceleration problems with his R-5B Yamaha. The problem is NOT the plugs.

I have a R-5C (duplicate to the B) and was told to change plugs, gas, and finally that my rings were bad. I refused to believe this (my bike was only two weeks old) and finally found the best solution.

Symptoms are that the bike screams up to 5-6,000 rpms then "runs out of gas." Letting off on the throttle for a brief second and then punching it will bring another 1,000 rpms to bear and eventually through this routine you can hit redline. Gas mileage will be running around 25 to 35, depending on how you drive

(Text continued on page 66)

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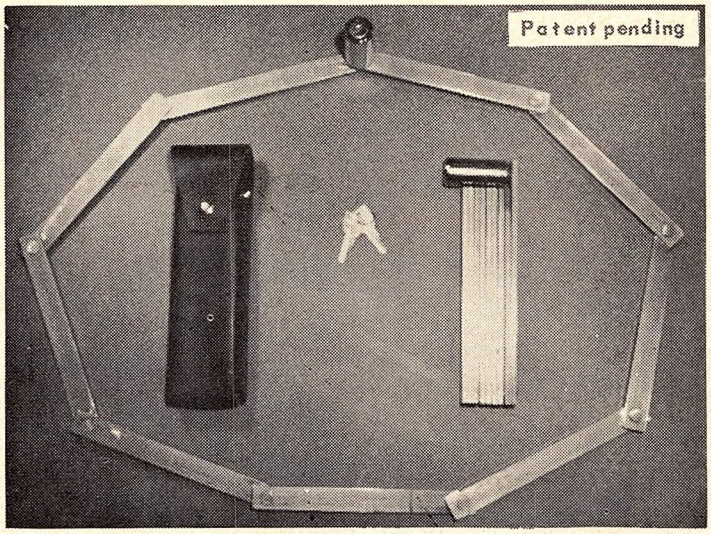

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IMPRESSION: THE ATTEX SPORT 5.30

At one end of the mini-bike spectrum are found the ultra-sophisticated little-wheeled machines manufactured by the likes of Honda, Suzuki, and Kawasaki. At the other end of the scale are the extremely crude devices which seem to be fabricated of old water pipe and powered by lawnmower engines. The really basic mini-bike is very crude indeed. Chain adjustment is usually made by moving the entire engine backward or forward, no suspension is furnished to dampen jolts and rider comfort is minimal. On the other hand, there are the machines offered by the giants of the Japanese motorcycle industry. These little bikes are extremely well made and extremely sophisticated. From ill-made to well-made, there is quite a choice when it comes to deciding on a mini-bike.

Certainly one of the better machines currently available is a little 50cc putt-about offered by the Attex people. Attex is heavy in off-road recreation with their main product being a very rugged little ATV. When they decided to get into the mini-bike field they insisted upon a rugged, yet simple machine that would do nothing to jeopardize the company's well founded reputation for quality off-road equipment. On that basis the Attex Sport 5.30 is a success.

Power for the little bike is provided by a single-cylinder two-stroke engine with a displacement of 49 cubic centimeters. Bore is 38 millimeters, stroke is 44 millimeters and compression ratio is 9.8:1. A maximum 5.3 horsepower develops at 7,000 rpm, and the output of the engine is passed to the rear wheel through a (shades of big bikes) 5-speed gearbox.

The little Sachs engine is beautifully conceived and executed; it looks like something a jeweler might execute as a decoration for his key ring. Muffling is excellent. The exhaust system on the Attex Sport 5.30 looks like the type of system normally found on a Six Days bike. It's big, it's bulky and it does a fine job of muffling the output of the engine. A long perforated metal heat shield keeps the pipe from branding tender legs.

The filtering system which supplies clean air to the combustion chamber is every bit as impressive as the finish on the engine and the excellence of the muffling. A really huge dead-air box is secured up underneath the saddle. The dual intakes for the box are located up above the rear fender where only a minimum of dirt can reach them. The plastic container is fitted with a very efficient filter element and, because of its size, it does an excellent job of knocking down induction noise.

The design of the rest of the little bike tends more toward the rugged than the sophisticated. The simple pipe frame is a robust device that is not likely to break up under hard use. Dual tubes cradle the engine and provide a good measure of protection for its underside. A large-diameter backbone tube supports the gas tank while a tubular loop supports the rear fender and seat. One feature that really impressed us about the frame construction was the way in which this loop was extended so that it would protect the taillight in the event the machine was flipped. This extension also proves to be a very convenient handle when it's necessary to heft the machine over larger obstacles.

Suspension on the little bike is not what you would associate with cross country racers, but it is better than no suspension at all. A regular swing arm/shock absorber arrangement is used at the rear of the bike while front fork movement is controlled by internally mounted coil springs. Neither the forks nor the shocks will cause the people at Ceriani or Girling any sleepless nights. However, as we've said, the suspension is better than nothing at all and it is slightly better than that found on most mini-bikes.

Semi-knobby tires are mounted on 10-inch spoked wheels. The internal expanding brakes are mounted in full-width steel hubs and they are actuated just like those on a big bike: A lever on the right handlebar takes care of the front brake, a foot pedal operates the rear brake. Many of the mini-bikes currently being sold are very seriously under-braked; meaning that the stoppers are only barely capable of handling the speeds

Overall length is 57 inches, wheelbase is 40 inches and the minimum ground clearance is 6 inches. Total weight of the machine wet and ready to run is 115 pounds.

Muffling on the little Attex is excellent. As a matter of fact, many full-size motorcycles could benefit from this type of silencing.

A Brief Look at One of the Better Mini-Bikes Currently Available.

which their machines can obtain. We're glad to note that the designers of the Attex were concerned with stopping the machine as well as making it go.

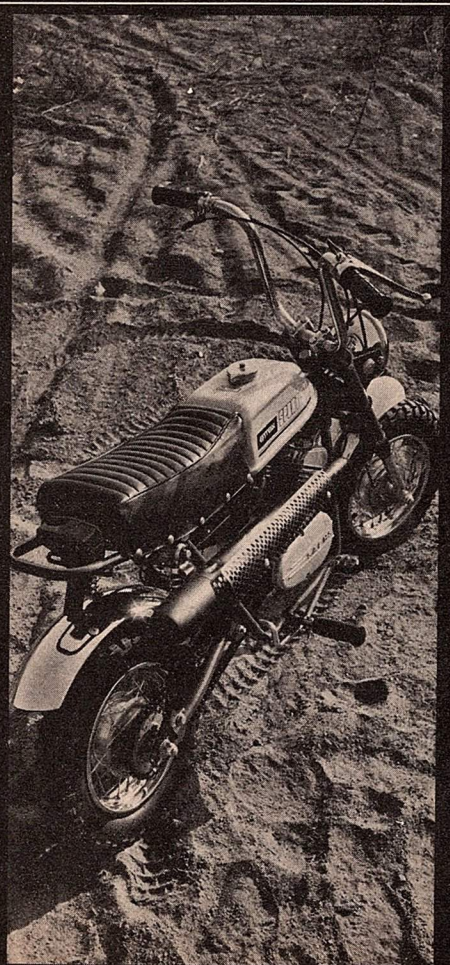
The combination of the suspension and a really decent little seat makes the Attex 5.30 certainly one of the more comfortable mini-bikes. The saddle is well padded, nicely contoured and it rises to meet the hump on the gas tank, thus canceling out what might be a very uncomfortable situation. The tank is rather oddly shaped, it carries one-gallon of pre-mixed fuel and the gas cap has a little knurled knob in the center which allows the rider to seal off the vent hole. This is a neat feature since it means you can lay the machine on its side and no gas will dribble out of the tank. Unfortunately, if the machine is laid on its side any fuel remaining in the float chamber will dribble out onto the ground, floor of the trunk or bed of the station wagon.

A taillight and a headlight are among the standard equipment on the Attex Sport 5.30. Even if a machine this size could be registered, and in some states it probably can, we would never recommend its use on public streets.

In the weights and measures department the Sport 5.30 is 57 inches long, it has a wheelbase of 40 inches, ground clearance is a good 6 inches, overall height is 37 inches and the thing weighs 115 pounds.

Overall, we were pleased with the quality of the finish on the Attex Sport 5.30, and, in particular, we were impressed with the performance of the little bike. The Sachs engine is a very willing power plant. It starts easily, even when cold. (It's got one of those neat little plastic levers on the handlebar that actuates the choke in the Bing carburetor. Most people think it's a compression release lever.) Once warmed up the engine pulls strong and, the 5-speed gearbox gives a ratio for just about any situation the rider may encounter. The silencing is excellent and the bike doesn't give off the ring-ding sound so common to small displacement two-strokes.

In wrapping up our notes on the Attex Sport 5.30 we can say that the finish is good, quality of workmanship is good and performance is good. The machine stands very near the top of the list in the world of mini-bikes. ●



The Sport 5.30 is one of a handful of mini-bikes capable of transporting an adult in some degree of comfort. The relationship (for an adult) between the seat, pegs and handlebar is surprisingly good.

The Sachs engine has a displacement of 49 cubic centimeters, it develops a maximum of 5.3 horsepower at 7,000 rpm and it comes with a 5-speed gearbox.

While the Attex comes with a headlight and taillight we strongly recommend that the thing be kept off public roads. As far as we are concerned mini-bikes are off-road machines and that's where they should be kept.

NUTS AND BOLTS

(Text continued from page 63)

and oil will practically disappear visibly. Top speed will usually be no higher than 75 to 80 at best.

The solution is to make sure the air screws are set at 1¾ turns (factory specs). Once this is done, pop the seat and remove the air filter cover. Turn the cover 180 degrees and replace. The front (formerly the back) should be elevated slightly and a little jiggling will result in finding an adequate setting for the back. If done right, the tool kit should fit in its normal spot (you might have to rearrange the tools slightly since there is a little less room). Leave the original main jet in. The problem is NOT gas, it's air. I run NGK B-8HC's and have had good luck with them. (Hard driving, fast accelerating and high prolonged top speeds) but different climates may dictate other ranges.

The above adjustments and changes brought my gas mileage from 25 to 30 up to 40 to 45, oil consumption dropped considerably and the bike now redlines easily. The top end with no wind and slight crouch is 100 to 105 mph.

Another noticeable improvement will result with the addition of an electronic ignition. Buco now has a good one for R-5s that only costs $29.95 (instead of the old $60-$70). Front fork oil should be replaced with 30-wt. regular or racing. Wobbling in turns at high speed (60-plus) is due to rim irregularities. The spokes should be tightened and, if necessary, the rims should be trued BY A PROFESSIONAL. The problem is not with the damper although tightening will sometimes seem to help somewhat.

Dave Erskine
Carmel, Calif.

P.S.—The center kickstand is a left turn menace and should be removed to be safe.

Thanks, Dave. I wonder if periodically cleaning the air filter would solve that air starvation problem?—Ed.

Dear Sirs:

After reading Tom Dovorany's letter about his 250 H-D Sprint in your July issue, I'll have to agree with your opinion. That Dell'Orto carb is a real bug-a-boo on Sprint engines.

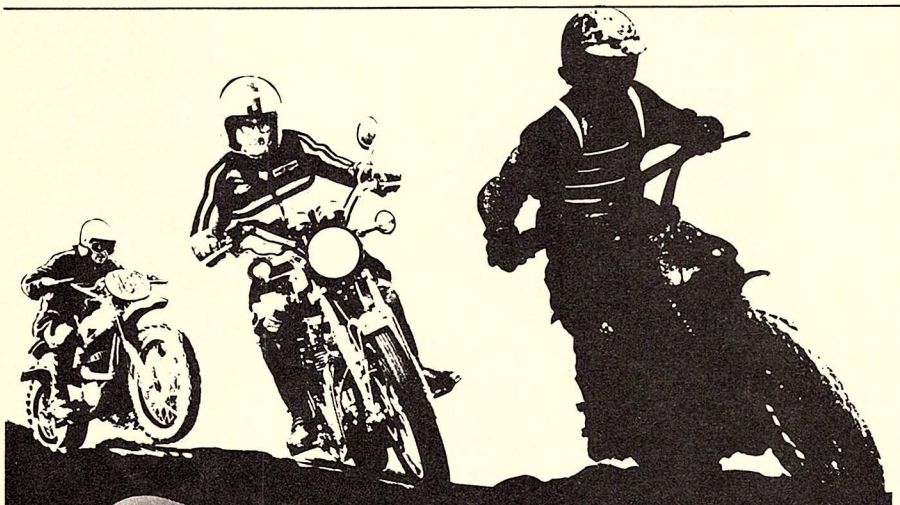
I think Tom would be better off to save his money a little longer and buy a "Lake" or "Posa-Fuel" type carb or injector unit. Tom did not mention if he had a '66 or earlier Sprint, which would make a world of difference.

I have a '62 Sprint H which has also given me carb problems. Also, I'm a flattrack nut (spectator only). I would sure appreciate any tips or an article on how a nice 250cc H-D flattracker is put together. All the magazines always have hop-up tips for bug sprayers (two-cycle scooters) but never on the 250 or 350 Sprint.

When the 250cc Pros run at Auto City near Flint, Michigan, there **ain't** a Bultaco Astro 250cc 42hp or Ossa Dick Mann Replica 250cc 40hp that will beat the better running Sprints or CRS's. So there must be something there that's good.

Chris Cipriani
Saginaw, Michigan

Under many conditions it is difficult for a 250 to compete with a 350. You sounded convincing, Chris, until you suggested the so-called fuel injectors.—Ed.



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Dear Mr. Ekins:

I am probably late by a mile as we are always one month behind the latest edition of **Modern Cycle,** but I'll ask anyway: I own a Kawasaki 350 Big Horn which I bought here in Japan. The bike has given me a lot of enjoyment not only at trials and motocross, but also on two longer trips—one to the West Coast of Japan from Tokyo and one to Mt. Fuji. One big fault showed up initially at break-in time and on the Mt. Fuji trip—carburetion. The 32mm Mikuni carb is supposed to be self-adjusting for altitude. This means you've got to have the proper main jet in your pocket for the current altitude, shut down, get off, change main jets, and get going again until the engine starts "beer burping" again and lugging.

Mind you, the climb to Mt. Fuji, although it is on good highway to Station Five, is an extreme test for altitude changes, but the fact remains the self-adjusting carburetor needs a lot of help to do its stuff.

By the way, for the people with Big Horns who live close to sea level, a change from the standard #132.5 main jet to #127.5, putting the needle jet clip in the second or third notch from the top, and 1½ turns on the air screw ought to be close for starters. I've checked with two other owners here, and we seem to match, having had the same choked-off rpm runs, rough idle, etc. before the above changes.

Anyways, I put the higher compression speed kit on, with the accompanying carburetor which is no bigger than the standard one, so no wonder a hole with a rinky-dink filter has to be in the carb cover—there is no room for air to come the normal way! Then I had to trim the float bowl flooding train because it interfered with the oil pump quantity quadrant. The first twist on the throttle, and the quadrant hung up at a position designed to supply oil at 4,000 to 5,000 rpm (at a guess). Last, but not least, the carb cover hole for the speed kit lowers my waterproofability (?) from seat height down to the brake pedal.

This tale of woe leads me to your article (**Modern Cycle,** October, '71), on the "Lake Fuel Injectors." Correct me if I am wrong. My hopes are that installation of the Lake carbs would remove ⅔ of carburetor and plumbing, letting the air in the way it was designed to in the first place, speed kit or not, and I would only need the one 32mm Lake unit both for standard running of the speed kit with its compression rise from 6.7:1 to 7.2. I could replace the small filter on the carb cover with a waterproof quick-release cover to get at the Lake carburetor controls.

For the last, you forgot the Lake people's address in your article.

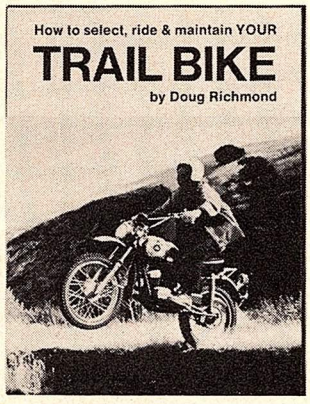
In closing, a few more tips to save Big Horn owners a headache or two. If they don't know, or haven't looked, I can tell them that the headlight, tach and speedo mounts, plus the forward upper edges of the fuel tank are expressly designed to chew up control cables—it's all too tight, and even though some edges are round and smooth, vibration will make them eat through the metal protecting coil of the cable housings. Re-routing the cables outside the fuel tank and the instrument cluster with plastic covered clamps will do the trick.

The clutch cable, or its spiral spring cover will cut deep notches into the exhaust chamber. Take a stainless steel strip, bolt one end to the metal air inlet housing behind the cylinder, bolt a small plastic covered clamp to the other end, with the cable running through it, after, of course, cutting the strip to the proper length to afford clearance for the clutch cable between the exhaust chamber and inlet hose.

Take some GE Silicone Seal and cover the lower ends of the tach and speedo cables where they go into the transmission, and front wheel housing respectively. The above is good for any bike. Also, completely

(Please turn page)

These Doug Richmond books make YOU the expert



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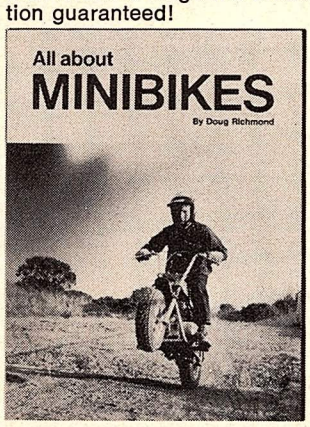

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NUTS AND BOLTS

cover all the cable adjusting turnbuckles with vinyl tape. Electrician's tape is too messy.

Lastly, for the people who are sick and tired of the too short exhaust chamber messing up their left rear spring, shock absorber and points below, with two-stroke oil, the '72 Big Horns have the problem solved, and if you are interested I'll get the part number of the '72 exhaust chamber, after I see if it will fit earlier models.

Hope I have been of help, and hope you can help me.

SP/6 Bernd Blanke
4th Aviation Detachment
Camp Zama, Japan

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The Lake carburetor idea is not practical for your Big Horn because you tune the unit while riding your motorcycle. In the case of the Kawasaki it would mean removal of the carburetor cover which in turn means no air filter. Once you got the bike running slick and re-installed the carburetor cover side case the engine would have to breathe through all those tunnels to the air filter, and your carburetor adjustments are no longer "in."—Ed.

Dear Sirs:

I have been reading your magazine for some time and I find it most interesting and enjoyable. In your May issue I read the article concerning the Honda XL-250. I recently purchased one and would like to ask some advice. I plan to do some motocross racing and would like to know the following: (1) What size tooth sprocket (front and/or rear) would be best for this racing? (2) What size and type tires (front and rear) would be best? And (3) in your article, it was stated that with little work it could put out more than 30 horsepower. Could you tell me what type work would have to be done? Your help and response would be greatly appreciated.

C. C. Lester
Richwood, W. Va.

For your answers just read the August, September, and October issues of Modern Cycle.**—Ed.**..

Dear Sirs:

I am having a problem with my 1971 Honda CT70H. It won't start and I have tried everything I can think of. I cleaned my carburetor, replaced my spark plug, charged my battery, and I also timed it. Can you suggest anything else I can try before I have to take it to a dealer?

Dennis Beach
Thermopolis, Wyoming

Yes, check the emergency kill switch located on the throttle housing, it could be off.—Ed.

Dear Mr. Ekins:

I have a Kawasaki 125. In your opinion would a Hooker or an expansion chamber made for my bike be better for off-road riding? I've stripped the bike completely, and so far I've put a knobby on the rear. Are there any "hop-up kits" for my bike? Do you think a 21-inch front wheel would help handling any? Any suggestions would be appreciated.

Sam Brown
Malvern, Pa.

I would pass on the expansion chamber idea and follow through with getting a 21-inch front wheel. The less noise we make the fewer enemies we're gonna have.—Ed. ●

POWDER PUFF POWER

(Text continued from page 17)

the middle. When the green flag dropped there was no way I was going to look back. I had earlier envisioned 51 girls running over my bod!

At the first turn things did get a little crowded, and, unfortunately, two separate accidents occurred behind me; like I said, I didn't dare look back. I did hear later that all the crash victims got their bikes up, restarted them, and were once again on the course racing.

Once the first of the pack arrived at the beginning of the major straightaway all was still tense but the girls now had a little elbow room. I was still gritting my teeth from the start as I watched the faster girls take the lead. Down the straightaway you could really get it on. The only hairy part was getting your bike slowed down for the off-camber turn at the end. As in the past Hopetown GPs a few more girls went down in this turn. Fortunately, none of them went over the ravine on the outside of the turn (it's a long ways down!).

From this point on the course began to get narrow, twisty and tight. We encountered three uphills (one complete with rocks), a drop off where your stomach comes up to meet your throat, fast fire road type sections, a downhill with whoop-dedoos, and lo and behold, a real live western town! We went right down the main street with tires sliding in every direction.

As I said before, the Dirt Diggers are famous for their mud hole. This year you could say that they had two. After the western town the course dropped into a ravine that was full of slime. Girls and bikes were going in every direction! It was just like an obstacle course. Naturally, the spectators loved it. Once out of the ravine it was fast...until you reached the REAL mud hole!

Upon entering the "hole" it was hold your breath and pick a line, any line—they were all mucky. About fifteen feet past the mud hole was the finish line. When you reached this point it was the same thing all over again.

For our $10.00 we were to receive 8 laps of this dirty fun (which amounts to about 45 minutes). Here's the clincher. The Powder Puff race was cut short—by 3 laps! The 5-lap race amounted to 20 minutes. On any other Sunday the girls can get three 20-minute motos for half the price! What a bummer! Dick Stever (the finish line flagman) felt that the girls were getting tired and therefore displayed the white flag (last lap) at the end of lap 4. The majority of the girls were really disappointed, tired or not. Unknown at this time, the girls were going to get revenge by the end of the day.

Right before the last race of the day the Dirt Diggers announced that all Powder Puff riders meet at the mud hole following this last race. We did, but we didn't know why. A plot was in the making. Dick Stever's own club grabbed hold of him and carried him over to the greasiest part of the mud hole, and, you guessed it, threw him in for the Powder Puffers!! His wife Annette (a fellow Powder Puffer) was a little upset because she had just bought those new white pants and slaved away at the sewing machine on his shirt. Hopefully it will all wash out—after all it was all good, dirty fun!

The girls that deserve all the credit were the top finishers. First through fourth are as follows: Janene Pennington (Bultaco), Cherry Stockton (Bultaco), Joyce Soyka (Rickman), and Joan Wilson (Puch). True racers and very experienced. All in all it was a great race...truly the world's largest for the Powder Puff set!! Don't ever get discouraged — KEEP ON PUFFIN'! ●

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BERKSHIRE INTERNATIONAL

The Foreigners are Coming!

Not too many years ago a fellow named Al Eames decided to have European-type enduros in his native Berkshire Mountain area using the many miles of hiking trails, dirt roads, and snowmobile paths that abound in this gently rolling resort area. A close relationship with the many residents and a lot of help from a club called the New England Trail Riders Association has made the Berkshire Two Day a tremendous success, drawing scattered entries from all over the U.S. and a few from Canada.

About ten years ago this New England area, AMA's District One, told the AMA to go fly a kite. To the local rider this meant that he didn't have to belong to any organization—just pay his entry fee and ride. To the American Motorcycle Association it was a kick in the groin.

As a result of much political maneuvering the AMA became keeper of the International Six Days Trial for '73 and Berkshire became the venue. Al Eames was proud. The NETRA was proud. And the AMA got District One back into its dues-paying folds plus a very capable

group of people to take the responsibility to do the not-so-easy job.

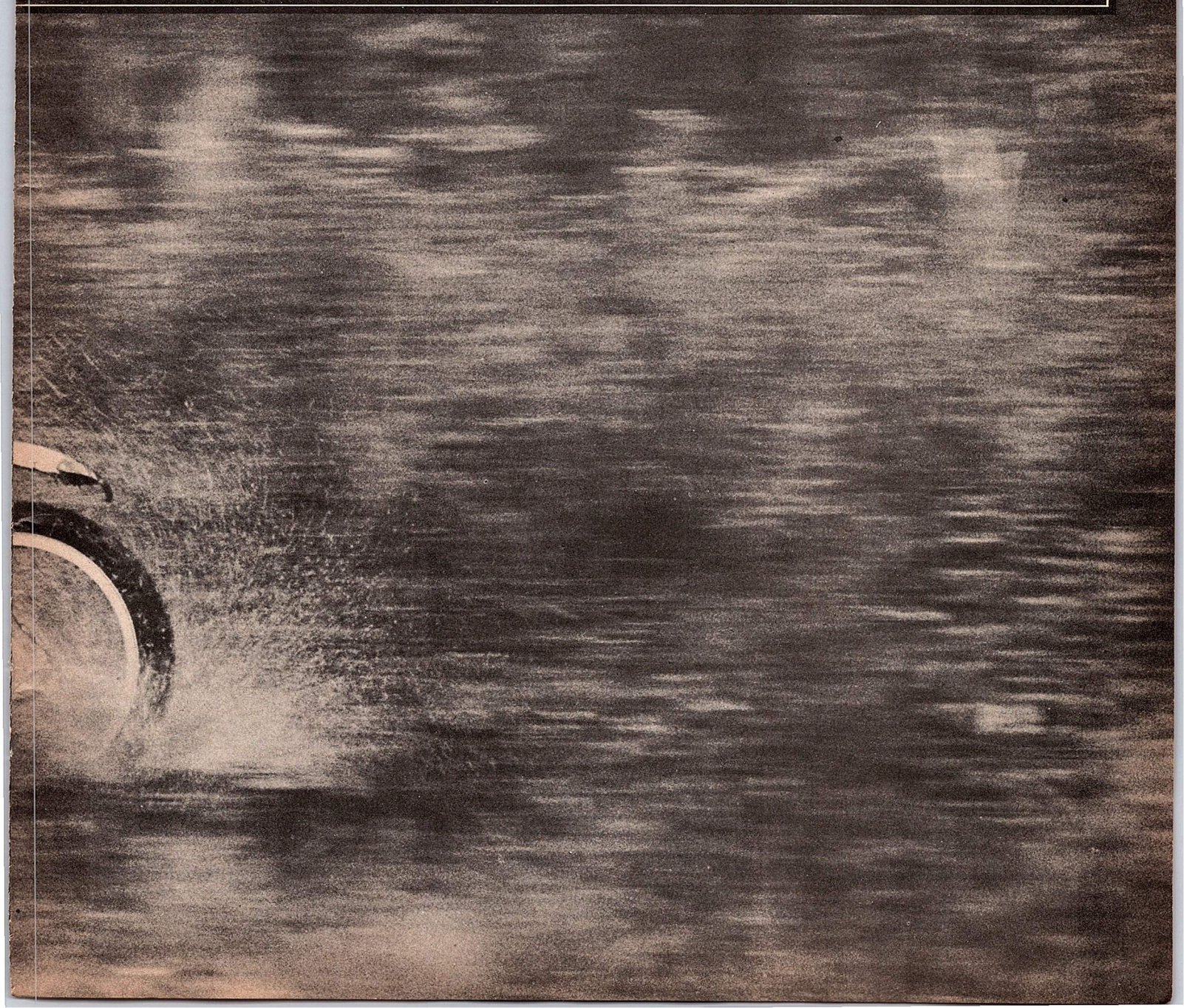
The Berkshire Two Day is a spring event, but the Six Days will be held in September. In compliance with FIM rules a trial event was held in October and witnessed by several foreign officials. Approximately it was called the Berkshire Two Day International.

Some of our visitors brought with them a few good Six Days riders to participate and take a good hard look at the country. With both foreign and local entries the Berkshire International became a very big thing indeed. It was no longer a local event. Come September all available rooms in hotels and ski resorts will be full.

The Two Day International was successful with those not well prepared for the deep mud and deeper water dropping by the wayside, others finishing, but not on time, and just a few doing well enough to become Gold medal winners.

Favorite to win the trials was a Czechoslovakian named Cespival. He was top man at the real International just a few weeks before. But, alas, his very special one-of-a-kind Jawa broke three-quarters of the way through the second day. The declared big winner was local boy David Eames, riding a 500cc Yankee twin. The combination of the Yankee's horsepower (three special tests were horsepower contests and one took a degree of handling and ability), and his familiarity with the area brought in the win.

Best team and most impressive were the Monarks from Sweden, complete with Swedish riders. The Sachs-powered 125s did in the Pentons for an impressive 1-2-3 in class. Of the 70 riders that started—half of them from other nations—18 won Gold medals. Forty percent of the starters didn't finish, but one that did was a girl—Karol DeGraw. She and her 175 Yamaha forced their way around the bogs and through the woods for a well earned Bronze medal. The only thing that most of us couldn't figure out was why she was always smiling. But when you look around, you find that's the way it is in New England in the fall. ●



FOUR-STROKES, EURO-HACKS AND THE YEARLY BROUHAHA

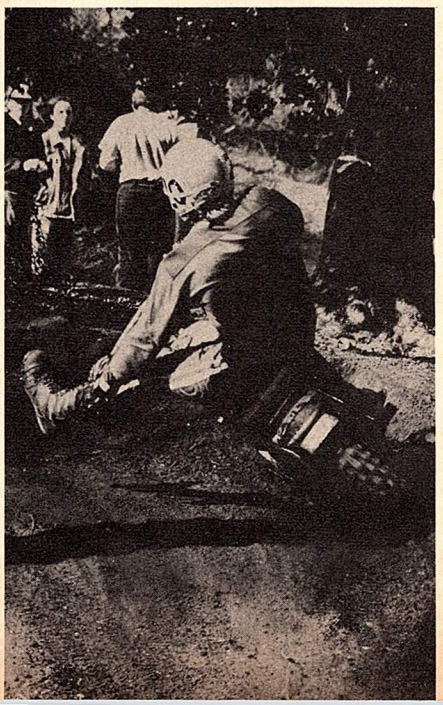
Like Ground Hog Day, the annual Dirt Diggers Grand Prix is always an uncertain occurrence. Almost from the beginning, and for most of its years since, the terms and availability regarding the DD-GP's movie ranch venue have been about as firm as the beginning of Southern California's capricious winter rains.

But just as it has happened for fourteen years the DD-GP came about once again preceded by just enough rain to set the track surface right and minimize the dust. And as has happened in the most recent runnings of the DD-GP, conflict again arose between the Diggers and their arch-nemesis, the AMA.

Aside from the drama of promotion and sanction difficulties, with which the Diggers have become comfortably conversant, the 1972 DD-GP gave rise to a new rallying cry—Four-Strokes Live!

Certainly the greatest problem the Dirt Diggers face each year is securing the charismatic Hopetown venue. Obviously Hopetown is a smaller part of Bob Hope's empire than it was of Crash Corrigan's holdings. (Remember when it was Corriganville?) Consequently the deal has to be spot-on and assuredly profitable before an agreement is entered into each year. Once again the details were worked out to ensure

(Text continued on page 80)



The Fourteenth Annual Dirt Diggers Grand Prix

MAIL

(Text continued from page 56)

letter he was rambling on about exponential horns, intrinsic resonance, noise attenuation and a wealth of other terms that even Webster would scratch his head over. In short, J. G. is trying to sound like he might know a thing or two and I truly hope that you will print more of his letters because they are downright funny. One other thing, the guy pictured on page 53 of your October issue looks very much like a Bultaco Alpina, or did you just print that P.S. on page 82 to rib good ol' J. G.? Keep up the good work on your fine magazine.

PFC Robert L. Cameron
APO New York

P.S.—I have a hunch that Mr. Krol will continue to buy **Modern Cycle,** but he will secretly sneak out to some secluded magazine rack for fear of being seen.

The verbose Mr. Krol is one of motorcycling's most prominent letter writers. We feel flattered that he has taken the time to honor us with one of his missives.

Dear Sirs:

Where does a beginner begin? I'm twenty-four years old, just short of six feet and 165 lbs. This past Sunday my wife and I went out to Indian Dunes to watch our first motocross.

I've finally found a sport that I really feel enthusiastic about. However, I have one problem. I don't know what kind of motocross bike is the right size for me.

I was told at the Dunes that I was too big for the 100cc bikes, so where do I begin? Also, I would like to know what motocross bikes seem to withstand the punishment better than others.

Bill Heath
Van Nuys, Calif.

First, a word of warning. Standing alongside the track with a tall cool one in your hand watching the bikes whistle by it's very easy to fall under the spell of motocross. It's also very easy to forget motocross is one of the most physically demanding sports in the world. If you're not in great shape, or willing to get in great shape, forget it!

Assuming that you are serious, and considering your size, I would suggest nothing smaller than a 125 machine. When it comes to selecting a specific machine, I suggest you go out to the track and make a list of the bikes that are winning consistently. Then, make a point to test ride all of the bikes that appear on this list. Undoubtedly, one of these will impress you more than all of the others. That's the bike for you.

Dear Sir:

I have a 500cc Zundapp Citation which was made around 1950. The frame and motor numbers are 231126. I have written to Illinois for parts but they didn't have them. If you can help me find parts for it, or some that would work on it, please let me know. I need carburetor parts, electrical system and throttle cable. I like your magazine very much. I try to buy every edition.

Dale Hodges
R.R. 2
Upton, Kentucky 42784

I'm afraid we can't be of much help. You should be able to fabricate a new throttle cable out of one of the replacement items available at any good motorcycle shop. As for the other parts; all we can do is print your mailing address and hope that someone who knows something about the 500cc Zundapp will get in touch with you.

Dear Gentlemen:

Some time ago, perhaps a month or so, I ran across an article in the **Rolling Stone** Magazine written by Hunter S. Thompson. He wrote concerning a prototype in the Vincent line of cycles known as the "Courage," describing this 1000cc brute as a genuinely hellish bike. My question is that, do you have any information on the Vincent Black Lightning or the Shadow, such as where they are built, who to contact to get one, performance tests and handling characteristics? I would sincerely appreciate any assistance you would be able to give concerning this line of bikes. An article would be ideal.

Thank you for your trouble and kindness.

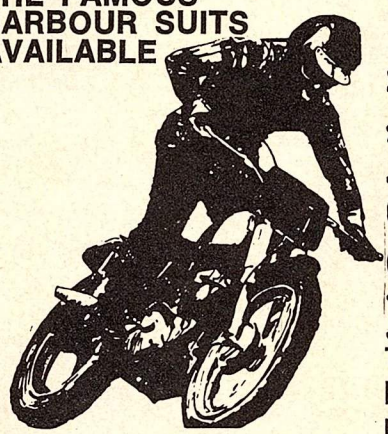
James J. Landis
Patrick A.F. Base
Florida

The English firm which originally produced the Vincent motorcycles went out of business early in the 1950s. Since the demise of the original company several firms have, at one time or another, tried to bring the legendary Vincent back into production. Probably, the most ambitious effort was that of the Swiss manufacturer who offered a machine called the Vincent-Egli.

Complete information on the machine you refer to, the Courage Vincent, can be obtained by writing to: Courage Custom Cycles, 4636 E. 14th Street, Oakland, California 94601. ●

HYLAND M.V.

THE FAMOUS BARBOUR SUITS AVAILABLE



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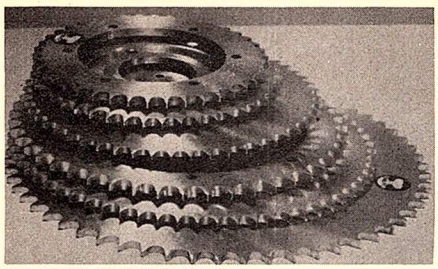
HOT SET-UP FOR BIKE 'N BOD



ALLOY SPROCKETS

Azusa Engineering, Inc., through its Tabloc Sprocket Division, is now offering sprockets of all sizes and styles made from 7075-T651 alloy. This heat-treated alloy normally is used in jets, rockets and supersonic aircraft due to its extreme toughness and resistance to flexing. It actually outwears steel. In addition to the use of this super tough alloy, Tabloc increases sprocket life by maintaining extremely close tolerances on all dimensions. Each sprocket is doubly inspected for concentricity and bore size to produce a precision fit on the hub and give constant chain tension.

Available from: **Azusa Engineering, Inc.,** 1542 Industrial Park Street, Dept. MC, Covina, California 91722.

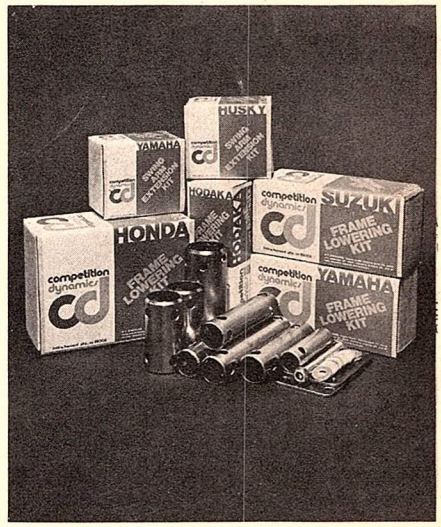
FRAME KITS

A new addition to the accessory line available from Competition Dynamics is a frame kit which improves the handling of competition and off-road motorcycles. The new design of the kit eliminates the possibility of frame breakage due to heat embrittlement during welding and insures proper frame alignment no matter how inaccurately the frame was cut during installation.

Not just a lowering kit! The kits include hardware to alter all the facets of frame geometry necessary for proper handling. Step-by-step photo illustrated instructions for the installation, welding and alignment of each kit are also included.

Kits are available for all Yamaha Enduro and MX models (AT, CT, DT and RT), Honda SL-350 (1971 and later) and SL-175, Suzuki 400 and Hodaka 100. Swing arm extension kits for Huskys and Yamaha Enduro and MX models are also available. Prices run from $12.95 to $24.95.

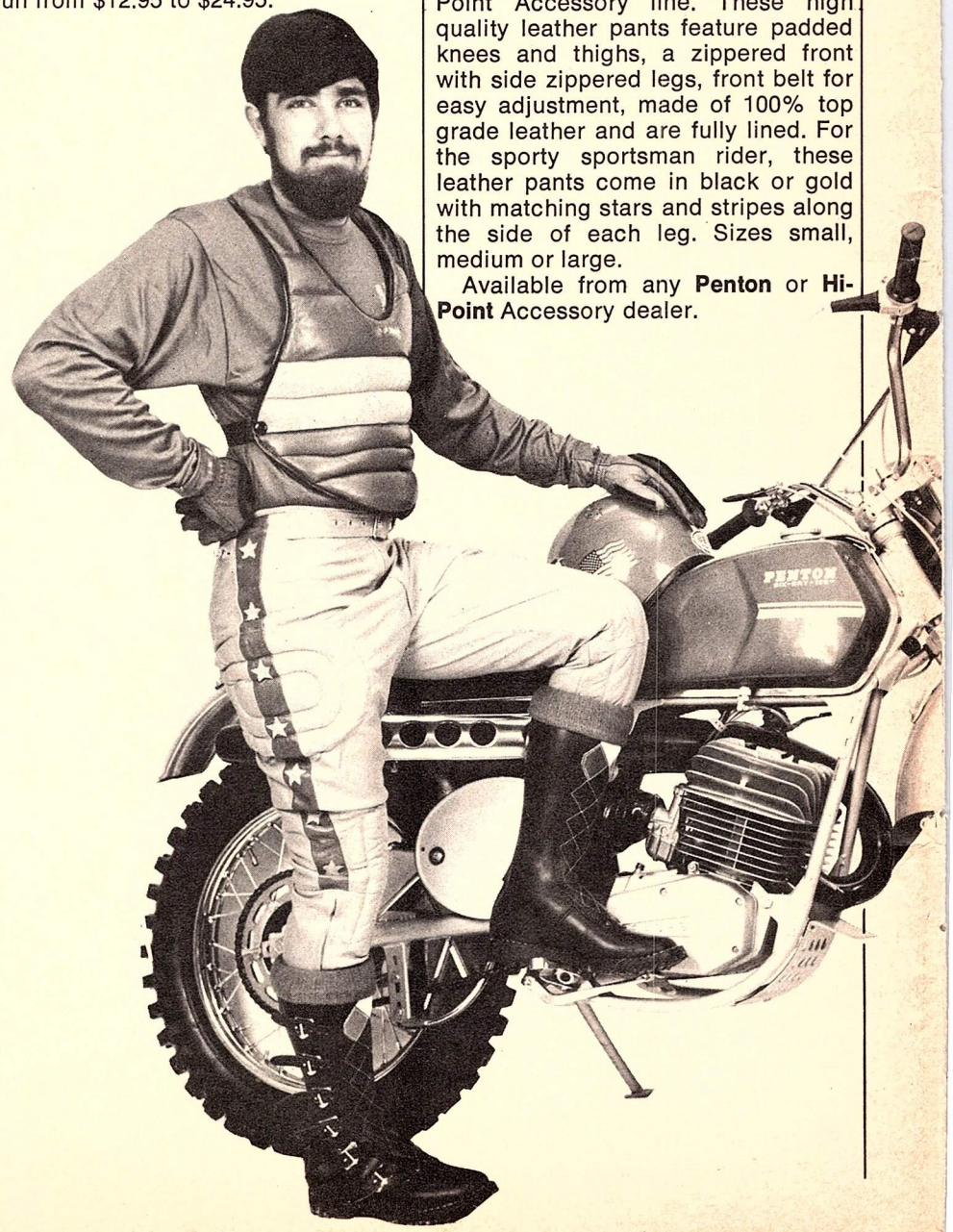
Available from: **Competition Dynamics,** 3421 East Harvard, Dept. MC, Phoenix, Arizona 85008.

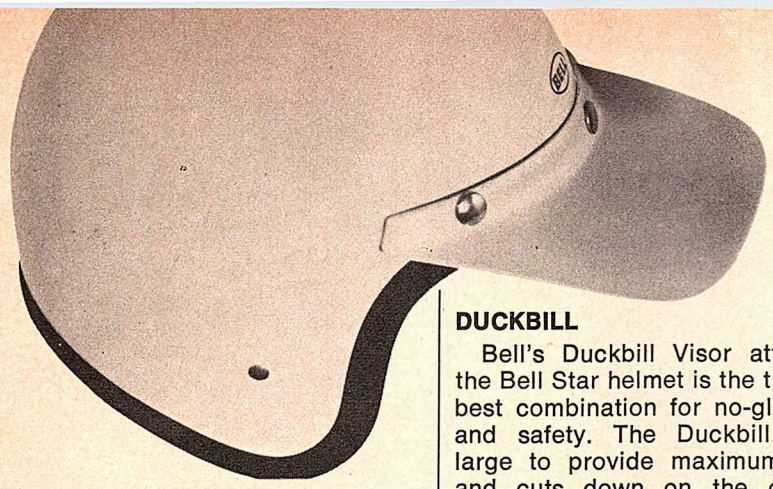


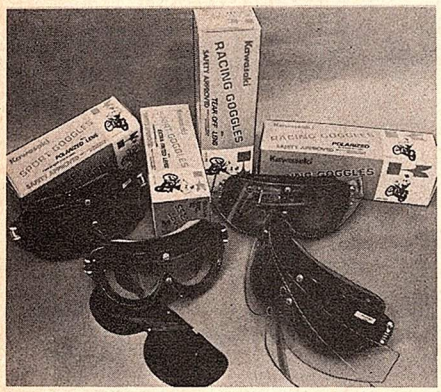
PAD YOUR BOD

Hi-Point leather motocross pants are the newest addition to the Hi-Point Accessory line. These high quality leather pants feature padded knees and thighs, a zippered front with side zippered legs, front belt for easy adjustment, made of 100% top grade leather and are fully lined. For the sporty sportsman rider, these leather pants come in black or gold with matching stars and stripes along the side of each leg. Sizes small, medium or large.

Available from any **Penton** or **Hi-Point** Accessory dealer.







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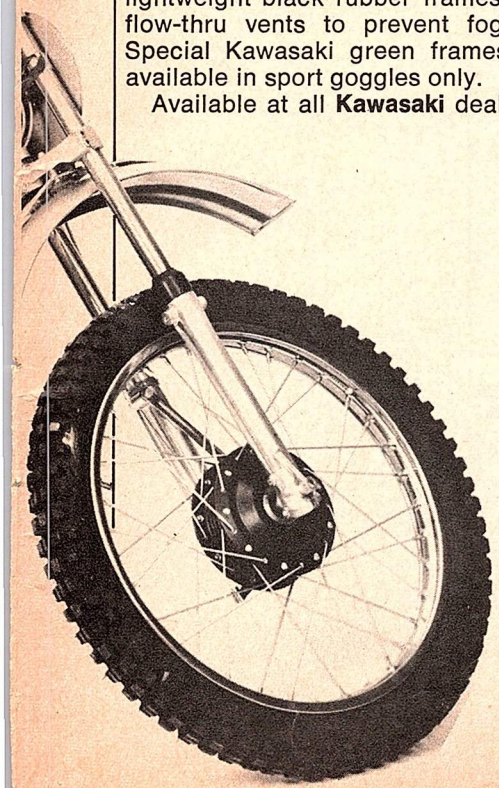
For 1973 Kawasaki has a complete line of goggles for cycle riders and their passengers. For the competition rider, Kawasaki has racing goggles with tear-off lenses for muddy and wet conditions. As the outer lens becomes dirty they can be disgarded. Racing goggles come with clear tear-off lenses and either tinted inner lens or polarized lens. The road rider can choose between tinted lens goggles with extra lens or polarized lens goggles. All goggles come with flexible lightweight black rubber frames with flow-thru vents to prevent fogging. Special Kawasaki green frames are available in sport goggles only.

Available at all **Kawasaki** dealers.



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Bell's Duckbill Visor attached to the Bell Star helmet is the trail rider's best combination for no-glare riding and safety. The Duckbill is extra large to provide maximum shading and cuts down on the dangerous "glare" condition caused by dirt on lenses. It is easily trimmed to an individual rider's requirements. Suggested trim lines appear on the underside of the visor. Bell's Duckbill Visor attaches easily to the Bell Star helmet, giving the rider the additional benefit of full face protection. List price is $1.50.

Available at major motorcycle shops.

TRICK LEVERS

While the market has recently been flooded with a surge of plastic motorcycle goodies, these new Impac Levers from International Cycle House offer something special. They are completely impervious to breakdown from gas, oil OR heat. Weighing in at a remarkable 3½ ounces each, you can bang these levers 'til you're blue in the face. They won't break; in fact, they're guaranteed forever. Fits all ⅞-inch bars. Retail price is $7.95—specify brand of motorcycle (California residents add 5%).

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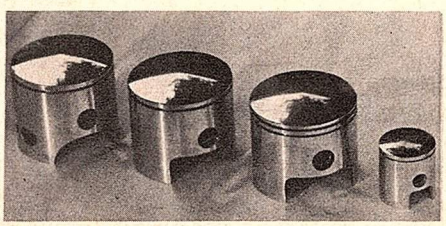

SLICK PISTONS

84 and 85mm pistons are now available for Yamaha RT-1 and RT-2 with single ring and Kawasaki 350 with dual rings. Boring stock barrel brings the displacement to 400cc and adds 4 horsepower with a broader torque range. Cast of high tensile aluminum with a high polished finish dome. Available in standard and .020 and .030 oversize. Retails for $34.95 (RT-1 and RT-2) $35.95 (Kawasaki).

The 44mm piston for Yamaha Mini Enduro (JT-1) will increase the displacement and add I horsepower. Comes with thin "lo-friction" ring. Cast of high tensile aluminum with polished dome. Retail price $19.95.

Available from: **S. Robin and Associates,** 7421 Ostrom Avenue, Dept. MC, Van Nuys, California 91406.

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The Pennzoil Company has added another product to its quality line of lubricants—Pennzoil 2-stroke motorcycle oil for injector or pre-mix application. This new 2-stroke oil is made from 100% Pennsylvania grade crude oil—blended with exclusive additives. It has been formulated by Pennzoil to give extra protection to critical friction points in all types of 2-stroke motorcycle engines, for track, trail or street riding. Its ashless additive treatment helps guard against corrosion and burns cleaner, with a reduction of visible smoke and exhaust odor.

Information available from: **Pennzoil Company,** P. O. Box 808, Dept. MC, Oil City, Pennsylvania 16301.

(Text continued on page 80)

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EUROPEAN SCENE

(Text continued from page 6)

The French Government has upped the tax on over 250cc bikes from 23 percent to 33 percent—the added 10 being in effect a luxury tax.

Honda has at last acknowledged that its four-stroke-only program was doomed when the factory went into the prototype production of a motocross plot. After attempts with its existing four-stroke units a complete new design resulted in the Elsinore Motocross: a 33 bhp TWO-CYCLE engine. The claimed 33 bhp is at the expense of a screaming 7,500 rpm.

Winner of the British Road Race Sidecar Championship, on his privately owned BSA, was Birmingham rider Norman Hanks who was formerly employed at BSA until made redundant in the BSA shake-out. What is remarkable about the Hanks family is that father Fred and his three sons are all sidecar racers. During a recent Snetterton sidecar lineup appeared Fred, Norman, Roy, and Peter, and to complete the family picture at the meet was Maisie and Beryl (mother and daughter) performing in the pits the endless chores connected with their men folks' efforts. Truly a great racing family!

The 500cc British Motocross Champion for 1972 has been suspended for two weeks as a result of "collecting" four noise tickets in a year. Exceeding the 100 decibel limit imposed by the governing Auto-Cycle Union, the ban covers the important 100-mile team motocross and the first 1972-73 TV moto.

The toughest event on the calendar for trials riders is the annual Scottish Trial held in the Yorkshire Moors territory. The course comprises of river crossings which abound in craggy rockery, bottomless bogs, machine wrecking devilry, all to be taken at speed with the tough bits duly observed for loss of marks recordings which all add up to a total penalty. The object is to determine how fast to risk one's progress involving heavy loss of points as opposed to a slower ride and less observation marks lost. Favorites this year were the Bultaco brigade including Rathmell, A. R. Lampkin, J. Sandiford, and Sayer with second fancies the Ossa boys D. Thorpe, A. J. Lampkin, D. J. Adsett and Bill Wilkinson. But the results proved these predictions all wrong when the Montesa riders ran the opposition into the ground. The winner was none fancied

(Please turn page)

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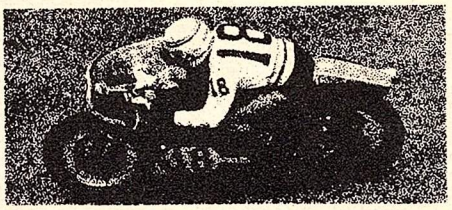

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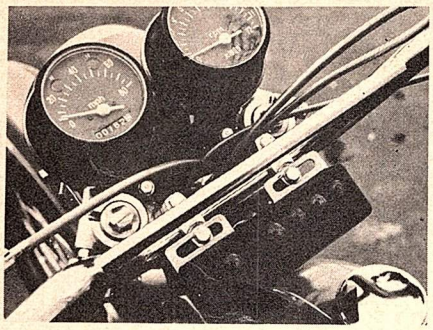

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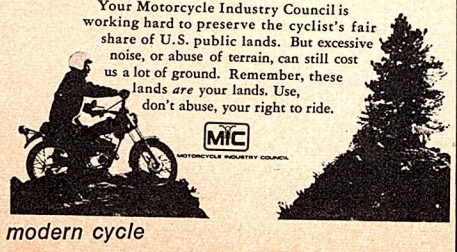

EUROPEAN SCENE

Rob Shepherd backed by G. J. Galloway who was runner-up with Rob Edwards 4th. Gordon Farley and C. Hemingway on the 125cc Montesa gained 1st class awards. Montesa also took the team award. The winner was best both on time and observation—a rare feat.

In previous Scott Trials it was said that local knowledge was worth a few miles travel where course cutting was not unknown. This year the organizers included two observed sections just beyond the suspected unofficial course short cut. This caught more than one of the favorites.

The Austrian KTM production motocross 250s employ the Bultaco front forks. The 35 bhp claimed unit at 7,000 rpm has a 5-speed gearbox and deliveries are promised for March, 1973. In its prototype trials the KTM was noted as being as fast as the Joel Robert Suzuki and only needed a Number One rider to do it justice. KTM in the U.S. are best known as the builders of the Penton.

In the world of motocross, Jeff Smith's book on the art is a classic. Perhaps less known, but of equal value, is Max King's book "Trials Riding" which was first printed in 1955. A 4th edition is now in print with much updating, particularly the photos used which illustrate the current trials "bog-wheelers." Equally of value for the beginner of this ever-growing sport as for the expert, it is the only publication on the market covering every aspect of the game.

American veteran racer Dick Mann is likely to switch to Triumph from BSA which name, as already mentioned, is being phased out on the U.S. market.

Following the success of Yamaha with its 250 and 360 motocross bikes comes the introduction of the largest two-stroke moto bike on the market—the SC500 of 490cc. Fitted with a huge 38mm carb and seven-port single-cylinder it is obviously a package for men not boys.

Former British 500 Motocross Champion John Banks who's switched to CZ when the BSA competition shop folded has not had much success during 1972. There are strong rumors that Banks will again be switching makes. One likely make is Yamaha which to date has not entered the British market. KTM, too, is in the market for a top works man to further promote their new MX model; concentration is likely to be on the 250cc class which has the greatest market potential.

Dunlop has won the American Motorcycle Association award for the greatest contribution to racing safety in the production of its KR97 racing tire—this followed the tire problems encountered by the Suzuki 750 in the '72 early-season Daytona races.

After three years with Sprite, lanky Irishman Gordon Bowden has switched to Suzuki. Bowden made quite a name for himself during his long riding vacation in the U.S. in 1971.

New products hitting the market include special Swedish steel springs for Husky rear shocks, alloy gas tanks for the motocross Yamahas with extra-large desert 3-gallon capacity (in addition to the 1½ moto size), new plastic fenders half the weight of those now on the market, and a new maker in the super soft motocross and trials glove market. ●

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MODERN CYCLE PHOTOCONTEST

Another one bites the dust! Motocross action gets the nod this month as Steve Nelson of Salt Lake City, Utah, catches the happenings at CMA Raceway Park. Rod Reynolds (#236) is the apparent victim of a hit-and-run centerpunch. Fortunately (for Rod) he was uninjured. As a true competitor, Rod dusted himself off and remounted his machine to finish the moto. For sending in the winning black and white photo, Steve Nelson shall receive a check for $5.00 and a free one-year subscription to *Modern Cycle* Magazine.

All photos that are used in the magazine become the property of Modern Cycle **and cannot be returned. Contributors who wish unused photos to be returned must include a stamped, addressed envelope with the entry.**

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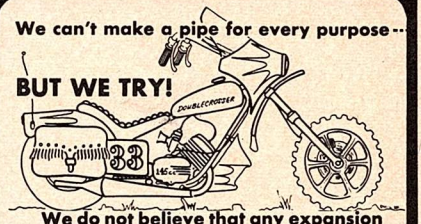

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Kawasaki—F4 & F7	$49.95
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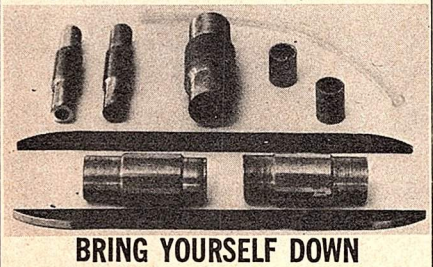

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All prices plus shipping. California residents add 5% sales tax on kits. Send 50¢ for information to:

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Dirt Diggers Grand Prix

(Text continued from page 72)

yet another running of this superclassic.

The yearly Dirt Diggers vs AMA brouhaha centered around whether or not the AMA would permit the European sidecars to run at the DD-GP. The AMA ruled that the Euro-hacks would run where they were told. The Euro-hacks replied that they had a note from home saying they could run Hopetown, and after all the Diggers were responsible in great part for their being there. It will cost you your licenses, retorted the AMA cum FIM. Lighten up, cabled the real FIM to the AMA. And so they did and the hacks ran and Lord! What a show it was! Once again the Diggers advance the sport in the U.S. just a little more—a little more than just about anyone else.

And, yes, there was racing—a great deal of racing. Two days so chock full of events (20—count 'em 20) that there was no time left for skydivers, car jumpers or stunt pilots. Just racing. In the premier events, the 250, 500 and 650 Expert contests, four-strokes dominated, if not by numbers certainly by their positions—first in the 250 (Gene Cannady, Honda) and 500 (John Hateley, Triumph), and (predictably) first and second (Gene Smith and Mike Konle, Triumphs) and many, many more in the Open class.

The Dirt Diggers Grand Prix is one of the sweetest deals in Amateur racing, for participant and spectator alike. Everyone goes away at the end of the weekend having received more than their money's worth. It's not simply out of loyalty, or in response to twinges of nostalgia that the DD-GP is the high point of the District 37 calendar; year after year the Dirt Diggers have staged increasingly better programs and built a tradition in the process. Each year there is some special thing—some super event to add extra sparkle to the program. Such as the first European Motocross Champion in the U.S.—Torsten Hallman in 1966. And every year we wonder what they hope to do the next time around. What improvement can they possibly make? Surely, they'll think of something. ●

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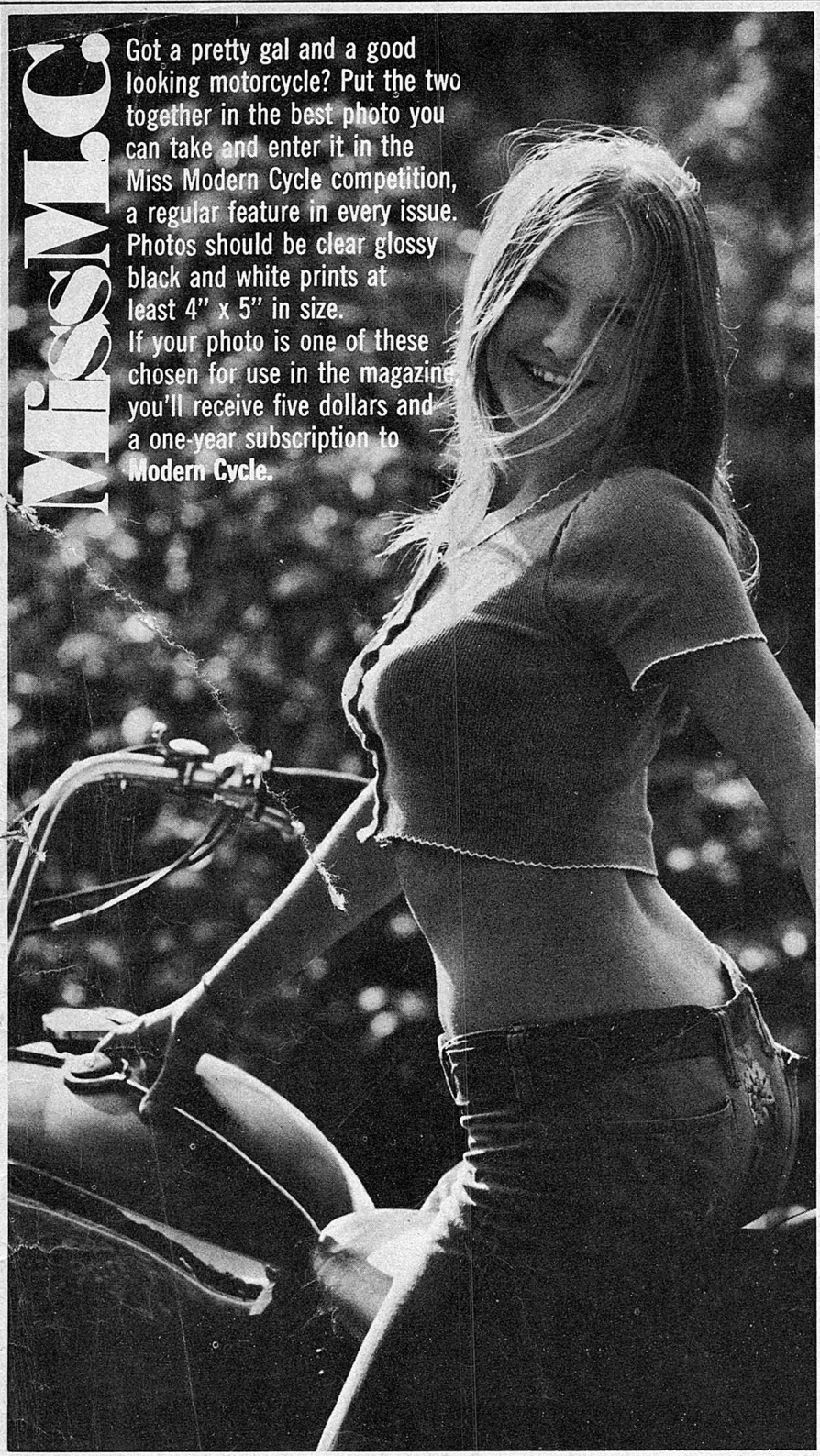

The winning entry in this month's Miss Modern Cycle contest was photographed by Roger Romei of Raleigh, North Carolina. This lovely 18-year-old answers to "Jackie." Jackie is originally from Canada, however, she now resides in Raleigh, N.C. To top off her winning credentials, Jackie is astride her own BSA Lightning! For sending in this beautiful black and white photo, Roger Romei shall receive a check for $5.00 and a free one-year subscription to *Modern Cycle* Magazine.

All photos that are used in the magazine become the property of Modern Cycle **and cannot be returned. Contributors who wish unused photos to be returned must include a stamped, addressed envelope with the entry.**

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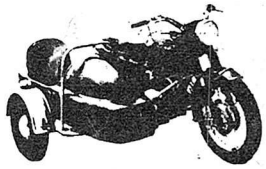

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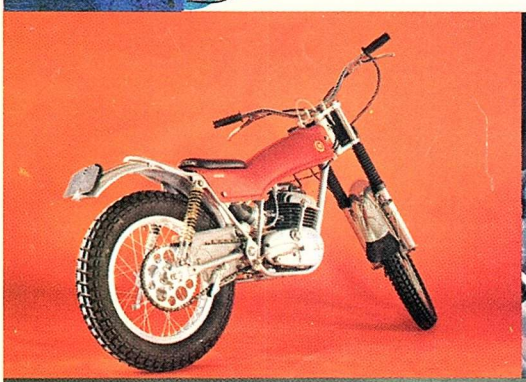

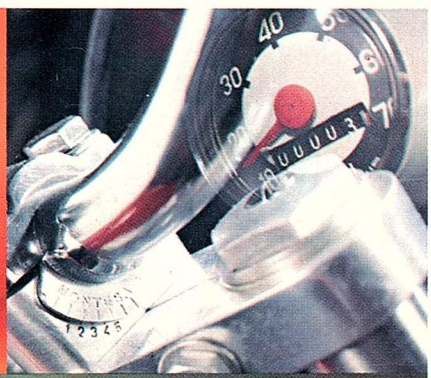

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